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**AN INVESTIGATION INTO GROUPING PRACTICES
AND EDUCATIONAL TRAJECTORIES WITHIN A
YEAR ONE CLASSROOM.**

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**Submitted for examination in consideration for the degree
of Doctorate in Education (EdD)**

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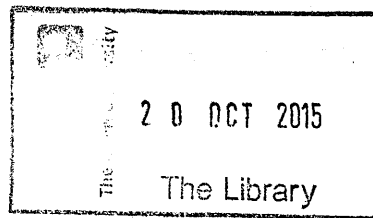
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DEDICATION

Dedicated to John Kitto (1939-2005) and Jennifer Kitto (1947-2007) for making me all that I am and accepting all that I'm not.



DONATION

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My thanks go to all of the children, families and school staff who participated in this research.

My eternal gratitude is extended to my supervisors Dr. Jane Tobbell and Professor Kieron Sheehey.

ABSTRACT

My research aimed to investigate learning in context by exploring the experiences of Year One children (aged 5 and 6 years old) within a single form entry Primary School in Sussex. The research uses an ethnographic case study approach and applies socio-cultural theoretical perspectives to attempt to understand some of the multifaceted influences that construct the cultural practices within the Year One class, with a particular focus on grouping practices and the repercussions of the children's differing experiences for acculturation within the school and the school system.

The data were collected over one academic year and comprised of documentation, field notes, a research diary, semi-structured interviews and classroom observations using video recording equipment. The ethnographic case study approach and data collection techniques were designed to accumulate detailed data which represented the cultural context, the individuals within it and their interactions during the class activities.

The research explores conceptions of 'ability' within the school and considers how the children's familiarity with school based practices and linguistic competences act to construct interpretations of their 'ability' which potentially enhances, or constrains, participation in school activity. The research foregrounds six focus children to explore their experiences, activity and interactions within the class, to construct an analysis of the class activity at different levels of social or cultural interaction and explicate some of the interplay between each, to attempt to understand learning in context.

The main themes from the analysis focus on notable differences between child-to-child interactions, adult-to-child interactions and learning opportunities across each of the 'ability' groups. The research considers how notions of ability act to structure children's experiences and subsequently influence identities, impact upon future activity and perpetuate inequalities.

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CHAPTER 1: INTRODUCTION

Having worked as a teacher in Key Stage One for several years, I have experienced many changes to conceptions of 'good practice'. I became increasingly aware that activities and practices which were being advocated for raising achievement, and targeting underachievement, in schools were prioritising specific perspectives on learning. This appeared to be particularly true of, although not limited to, grouping practices. Within my experience as a teacher I witnessed a gradual normalisation of the use of rigid grouping practices, and an increasingly widespread use of intervention programmes *delivered* by support staff. Each of which appeared to be conveying messages about the nature of learning, and the appropriate means of supporting it, which seemed at odds with my own perspectives. I had also become increasingly aware of the changing role of support staff, in providing support for specific groups of children, and their differing training and preparedness for undertaking these new professional challenges and responsibilities. I believed that classroom practices were becoming increasingly centrally determined, however as teacher autonomy was decreasing, teachers were being held increasingly culpable for their children's academic attainment.

Confronting the perplexing dichotomy between an increased accountability for my children's progress and a decreased influence over my own practice, I wanted to use a socio-cultural theoretical framework to explore influences upon classroom activity and attempt to investigate aspects which facilitate learning and those that constrain it. This intention evolved throughout the course of the research, initially focusing upon exploring class group-work, the

influence of the cultural context of class activity became increasingly apparent which led to a broader investigation into the influences on, and of, classroom practices.

The initial intention of the research focussed upon the children's interactions within collaborative group activities. The original intention was to investigate an alternative to ability grouping, by exploring the interactions of six focus children engaged in mixed ability collaborative group-work. This built from theoretical perspectives on the relationship between language and thought (Barnes et al., 1971; Beveridge, 1982; Vygotsky, 1986; Mercer, 1995, 2000). The research was initially intended to consider how group-work practices facilitate learning specific dialogic forms and explore the theoretical perspective on the potential of these dialogic forms for developing cognitive reasoning and higher order thinking skills (Littleton et al., 2005; Mercer et al., 2004; Mercer, 2008).

The original intention of the research was to explore ways of attempting to improve my own classroom practice by gaining greater insight into the development of collaborative learning. My emphasis was on exploring whether adaptation to the learning context, through the development of collaborative practices, could enhance children's experiences of school-based learning and maximise the learning opportunities within my own classroom. The research evolved from an initial aim – *'to explore the development of the interactions and learning of children engaged in collaborative activities'*. From this, initial, aim the research framework and the methodological procedures were determined. However, during the data collection, the methods for analysing aspects of the data proved to be less effective than anticipated. The initial attempts at analysing the classroom discourse used the 'key words' outlined by Littleton (2005), as indicative of specific dialogic interactions. During the analysis, I became increasingly aware that, for the purposes of my research, aspects of apparently

individual activity were too interconnected to previous social experiences to be evaluated as detached from contextual influences. In addition, a change of leadership at the school resulted in changes to school policies and teaching practices which also sent the research in an alternative direction. Both of these obstacles emphasised the significance of the context on individual children's activity in school. In addition, further exploration of a socio-cultural theoretical framework resulted in a realisation of the need for emphasis on the significance of personal and social histories on classroom activity. As the wider influences upon the educational institutions, individuals and interactions became apparent, it led to an adaptation to the research aims and design. The research then pursued a broadened aim – *'To explore the pedagogical framework that directed ability grouping practices and consider the repercussions of these practices on individual children's school experiences and wider classroom practices'*.

The methods employed to address this new aim for the research were designed to construct a broad investigation into teaching and learning practices on the Year One children's learning within my school setting. My data collection was intended to be continuous, forming an ethnographic case study which encompassed data representing the cultural context, the individuals within it and their interactions during the class activities, to consider the interconnection between each. This led to further revision of the research aims, culminating in the investigation which is presented through the following chapters.

Chapter Two presents the theoretical review of socio-cultural theoretical perspectives, focussing on interpersonal interactions and the co-construction of meaning through different levels of social and community engagement. The chapter ends by considering perspectives on the relationship between pedagogy and practice.

Chapter Three reviews research literature into grouping practices in schools and the utility, or futility, of different practices for academic achievement and personal development. It also provides perspectives on the connection between classroom practices and the underlying beliefs and theories which shape them. The chapter ends with consideration of the role of intervention groups for remedying perceived deficiencies in individual's knowledge and competencies within a specific subject area. This also considers the role of the classroom teaching assistant and research into the repercussions of the use of support staff as teachers.

Chapter Four presents the methodological procedures and outlines the research design. During the data gathering process the aims of the research were revised as a consequence of some limitations in the research design, as well as changes within the school setting. After outlining the ontological and epistemological position of the research, the chapter outlines the evolving research design and the justifications for the development of the research during the data gathering process. The chapter then goes on to consider the utility of the use of ethnography for meeting the research aims, and considers my professional role and researcher role with discussion on the benefits, limitations and conflicts between the two. The chapter concludes with a discussion of the ethical considerations encountered at different points of the research process.

Chapter Five brings together data from different sources to set the context for the research and describe significant aspects of the school, the class, the practices, the children and the conceptions and beliefs that underpinned the class activity.

Chapter Six explores excerpts of observed activity using the theoretical positions from the reviewed literature. The chapter ends by considering the classroom activity's impact on the development and educational trajectories of six focus children.

Chapter Seven provides a discussion on the findings of the research and considers the different aspects of the analysis against the research aims. This chapter concludes by reflecting upon the wider implications, and limitations, of the research.

THE AIMS OF THIS RESEARCH

- To explore the influence of ability grouping on children's learning in a year one classroom:
 - To examine the practices which shape teaching in ability grouping,
 - To examine children's experiences in ability groups,
 - To examine the interaction of individual identity and practice in ability groups.
- To explore the influence of ability grouping on wider classroom practice and pedagogy.
- To contribute to the understanding of how classroom practice constructs children's learning and so inform pedagogic decision making.

CHAPTER 2: A REVIEW OF SOCIO-CULTURAL THEORY

CHAPTER INTRODUCTION

The research assumes a socio-cultural view of learning, which is seen to *“transcend typical boundaries...and emphasise the socially negotiated and embedded nature of meaning-making and how learners learn to use the cognitive tools of their cultural community through participation in social activity”* (Murphy & Hall, 2008, p. viii) from the widest extremities of cultural ordering, i.e. broad political and social systems, to the intricacies of interpersonal interaction, meaning is created through participation in historically connected social activity. From this view, therefore, participation can be understood in different ways, depending upon the level of analysis ‘community’, ‘interpersonal’ and ‘personal’ (Hall et al., 2008). This provides the perspective which both underpins the rationale for the research design and provides the analytical framework for interrogating the observed activity.

Flowing from the research aims, the theoretical review first considers perspectives on the mechanisms of interpersonal interaction for learning (Vygotsky, 1978, 1986; Wertsch, 1985, 1991; Wood et al., 1976; Mercer, 1995, 2000, 2008). It then goes on to outline the view of learning through participation in communities of practice, and perspectives on the enabling, or disabling, influences on participation through differences between the valued behaviour across social spheres (Bourdieu & Passeron, 1990; Lave & Wenger, 1991; Wenger, 1998; Rogoff, 2008). It then outlines a view on *positional identities* (Wenger, 1998, 2008; Sfard & Prusak, 2005; Holland et al., 2008), which Sfard and Prusak (2005) argue are exposed, and developed, through narratives. The chapter finishes by exploring influences on class activity and outlines perspectives on the relationship between pedagogy and practice (Alexander, 2008, 2010; Porath & Bruner, 2000).

SOCIO-CULTURAL PERSPECTIVES ON LEARNING

LEARNING THROUGH MEDIATED ACTIVITY

This research assumes socio-cultural perspectives on learning with which to view the class activity and analyse the interaction at different levels. Building a focus on the co-construction of meaning between individuals, a socio-cultural perspective on learning views the mind as *non-local* in that cognition is *distributed*, or as Wertsch (1991) describes it, the “*mind extends beyond the skin*” (Wertsch, 1991. p.27).

Mind is not local but distributed, situated between individuals in social action in cultural settings and within cultural, historical relationships and resides between individuals' interactions and reactions. In viewing mind as non-local, 'meaning' exists neither in us nor in the world, but in the dynamic relation of living in the world.

(Murphy & McCormick, 2008, p. x)

This view emanated from the works of Vygotsky (1978) who emphasised the relationship between the language structures used in social contexts to the thinking skills which subsequently develop within individuals. Vygotsky's exploration of the relationship between semantic and phonetic aspects of speech, led him to argue that inner thought is essentially socially induced, by ascribing words, culturally and historically located, to immediate experiences, thoughts become 'embodied' by speech. “*It [thought] does not merely find expression in speech; it finds its reality and form*” (Vygotsky, 1986, p. 219). Furthermore, the interaction and mutability of meaning enabled continuous reinvention of sense, to create an on-going interplay between internal and external processes. Thoughts, in Vygotsky's view therefore, were expressed, constructed and elucidated through words, as the interaction between thoughts and words enables the construction and reconstruction of meaning. ‘*The*

speech structures mastered by the child become the basic structures of his thinking' (Vygotsky, 1986, p. 94). In emphasising the relationship between external and internal experiences, Vygotsky placed social interaction at the centre of human development and higher mental functioning, viewing language as the tool by which meaning can be shared, constructed and re-constructed. Crucially, for the origins of the socio-cultural perspective on development, he proposed that 'cultural development appears twice' occurring first on the social level, or 'plane' and then on the individual plane (Vygotsky, 1978, p. 57). In considering the specific processes of the development of language and thought Vygotsky (1986) asserted that *"if the thoughts of two people coincide, perfect understanding can be achieved through the use of predicates, but if they are thinking about different things they are bound to misunderstand each other"* (Vygotsky, 1986, p. 237). Vygotsky used this to illustrate the occurrence of external speech turning inward to become internal speech. He determined that inner speech was a natural progression from abbreviated speech based on familiarity of the content, of the meaning (Vygotsky, 1986). However the importance of abbreviated speech on establishing and maintaining shared meaning within social interaction, also provides a crucial pivot for social and local histories. This view of the interaction between 'intermental' and 'intramental' development became a central tenet of the socio-cultural theory of development.

Learning, from a socio-cultural perspective, is seen as 'appropriation' from participation in culturally posited activity and is based within social interaction and the 'negotiation of meaning'. For meaning to be negotiated, individuals within social interaction need to establish 'shared frames of reference' on which to reinforce, challenge and mediate understanding through their mutual engagement in social activity. Rogoff (2008) refers to the process of connecting common frames of reference within social interaction, as 'intersubjectivity'. Emerging through emotional expression shared in parent and child

interaction and building, through language use within activity, to symbolic linguistic references to shared events or objects, intersubjectivity refers to the common reference to the object, symbolic or concrete, in activity or conversation.

Werstch (1985) refers to the process of 'prolepsis' to explicate the specific processes of intersubjectivity and negotiated meaning. He asserts that interaction requires presuppositions upon which both a speaker and listener orientate the focus of their attention, adapting their dialogue, and actions, to predict, test and create their mutual understanding. This process requires dialogic partners to establish, and re-establish, indicators with which to anticipate meaning and evaluate the accuracy of their predictions. Continual cognitive referencing back and forth ensures reconciliation between what is assumed and what is presented. Goncu (2003) also explains the process of prolepsis as dependent upon participants' assumptions, but also emphasises that it is only possible if participants are actively engaged in meaning making.

Prolepsis entails two related presuppositions by participants in a dialogue. The first...the presupposition of trust...implicitly expresses the participants' willingness to make an effort to understand one another. The second is the presupposition that the listener has some knowledge that is not yet introduced in the interaction but is essential to the topic being introduced....since the speaker is presupposing, or taking for granted, certain things, the listener begins to test the accuracy of his or her assumptions about the gaps left by the speaker....the listener constructs the knowledge that the speaker presupposes.

(Göncü, 2003, p. 120)

Given the appropriate conditions, therefore, each participant in dialogue adapts their language, to suit their understanding of the needs of their audience, and similarly, each

listener attempts to adapt their focus, as directed by the focus of the speaker. Furthermore, this perpetual interchange acts, potentially, to establish references upon which future dialogic exchanges are determined.

In considering this in relation to school activity, the dynamic roles that each participant takes to establish, and maintain, mutual engagement emphasises the active nature of individual's meaning making and promotes an agentic view of learners "*the active constructor of meaning and knowledge*" (Hall et al., 2008, p. 30). This relates to both symmetrical and asymmetrical classroom relationships, for example between a child and a child, or a child and an adult, each individual is actively engaged in meaning making.

A further dimension to the idea of prolepsis is offered by Cole (1998). Whilst Wertsch's and Goncu's concern relates to the individual and the shared assumptions that individuals bring and develop to sustain their interactions, Cole (1998) uses the term prolepsis to describe the 'cultural assumptions' upon which futures are ascribed to individuals. Cole offers a Webster's dictionary definition of prolepsis as "*The representation of a future act or development as being presently existing*" (Cole, 1998, p. 183). Although relevant also to Wertsch's account of prolepsis, Cole uses the term to explore wider, longer term, futures. He asserts that futures become represented, which pose 'materialized constraints' upon the present. With particular reference to ways in which perceptions of gender roles impact on how adults treat neonates, Cole (1998) illustrates that behaviour is influenced by the common beliefs and the broad assumptions which underpin attitudes within wider society. Cole asserts that it is the assumed future realities which construct the parameters of behaviour in the present, which in turn reproduces the assumptions as facts.

These differing accounts of prolepsis are not distinct but mutually constituting. Each, both macro and micro assumptions, form the basis upon which individuals interpret their interactions and attune, or fail to attune, to each other. One's wider assumptions and opinions construct the prejudgements we make about a dialogic partner's intended meaning and consequently both impact upon our interpretation of it, and act to shape it. Whilst Wertsch's and Goncu's view of prolepsis emphasise the cognitive activity that individuals apply within their interactions, Cole's view explicates how individual's actions, words and group memberships shape our interactions by supposing and sculpting expectations. Although relevant to symmetrical, child to child, classroom interactions, this appears most significant for considering the influence of adults' assumptions about individual children, given the supremacy of adults' roles within a classroom on determining and directing the learning spaces within class activity.

In addition to centring interaction in the development of thinking, Vygotsky (1978) also proposed that learning was mediated by participation with others through the 'zone of proximal development'. Proposing that interaction with 'more capable others' further facilitated development. This 'zone' represents a child's capability when acting alone, in relation to their capability when acting with others.

It [the zone of proximal development] is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers."

(Vygotsky, 1978, p. 90)

Vygotsky (1978) identified that through the appropriate structuring of children's activity, what they can do with others becomes the action that they can complete alone, identifying the *"internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers. Once these processes are internalized, they become part of the child's independent developmental achievement."* (Vygotsky, 1978, p. 90). Continued, repeated social interaction, increases familiarity, over time and shared experience, to establish, develop and adapt the parameters of this 'zone'.

In considering the processes of movement through the zone of proximal development (ZPD) from interpersonal activity to intrapersonal activity, Wertsch (1985) proposes two 'semiotic mechanisms' of intersubjectivity which present cognitive challenges to a 'tutee' by a 'tutor'. The first, he refers to as 'establishing a referential perspective', establishing common categorisation for objects or concepts, and subsequently leading a learner to alternative, more specific categorisation. By establishing a shared reference, and then restating as an alternative, Wertsch suggests it *"can lead a child to think differently by talking differently"* (Wertsch, 1985, p.168). The second mechanism, he suggests, is the use of linguistic and non-linguistic 'abbreviation' to evoke and sustain shared routes through abbreviated directives. Abbreviation, he asserts, provides a challenge as it requires the learner to construct the missing information. Furthermore, abbreviation is a dynamic tool, in that a tutor can abbreviate or elucidate meaning assisting a learner to follow the implicit steps, but altering the level of challenge (Wertsch, 1985, p. 182).

Bruner (1976) conceptualised Vygotsky's 'zone of proximal development' using the notion of 'scaffolding', to illustrate the support provided by an experienced individual to an

inexperienced individual. From this illustration, Wertsch's 'abbreviation' can be seen as the dynamic scaffolds that a tutor provides in response to a tutees needs, simplifying or broadening the required steps, according to the response of the learner. However, Mercer (2008) argues that the notion of 'scaffolding' has been misinterpreted within common use and has emerged to represent a more rigid form of instruction than was originally intended. Mercer (2008) argues that it has become a unidirectional concept, said to represent the steps that a more skilled person provides for a learner to climb to reach a predetermined goal. Whereas, from the dynamic, and mutual, nature of intersubjectivity, the engagement of both learner and coach in negotiating the path from novice to master in any activity are mutually dependent and subsequently require equal focus when illustrating the passage from intermental to intramental activity. Mercer (2008), therefore, offers the idea of an 'intermental developmental zone' (IDZ) to describe the potential development within a communicative, interpersonal space. Although not dissimilar to Vygotsky's zone, or Bruner's notion of scaffolding, this interpretation of the potential opportunity for development places emphasis on both parties to adapt to suit each other's needs in maintaining mutual understanding, or perceptions of mutual understanding. Mercer (2008) proposes that his IDZ places emphasis on the role of dynamic intersubjectivity in social interaction and prioritises the role of talk as a mediational tool in development. Mercer explains his IDZ as a means to *"conceptualise how a teacher and learner can stay attuned to each other's changing states of knowledge and understanding over the course of an educational activity."* (Mercer, 2008, p. 121). Furthermore Mercer (2008) proposes that the development of exploratory talk, and its focus on explanations and interrogation of ideas, opens the 'communicative space' and enables participants in dialogue to 'sensitively attune' to each other's positions (Mercer, 2008).

Building from the socio-cultural view of 'cognition as being distributed within social interaction' and individual learning as a process of appropriation from participation in social and culturally posited activity, Mercer (1995) proposed categories of talk as a tool for analysis of 'distinctive social modes of thinking' and provided practical examples for engendering talk which facilitates negotiation through 'exploration and interrogation of ideas' (Mercer, 1995, p. 106). Focusing on the characteristics of language, used during group discussions, he identified the three broad categories of 'disputational', 'cumulative' and 'exploratory' talk (Mercer, 1995). From this, he asserts, the latter form, exploratory talk, offers potential for maximising the engagement in dialogue by making one's meaning explicit. *"Exploratory talk involves building constructively upon each other's ideas, interrogating and engaging with each other's assertions"*. (Mercer, 1995, p. 105). This, in part, actively advocates deliberately bypassing the 'abbreviations' proposed by Wertsch (1998), to make one's thoughts and meaning as unambiguous as possible. One of the primary distinguishing features of talk which is categorised as 'exploratory' is the interrogative exchanges within dialogue necessitating increasingly explanatory responses. By engaging in dialogue with an emphasis on interrogative and explanatory exchanges, children, theoretically, are enabled to gain greater understanding of their own and their partners' thoughts, facilitating negotiation of differing viewpoints and the co-construction of meaning. Mercer (2000) asserts that the use of exploratory talk acts to construct and maintain the 'communicative space', the IDZ, which facilitates learning by maintaining shared understanding through progressively challenging dialogue (Mercer, 2000).

Although each of these theoretical views centre cultural histories, local and social, within the processes of learning, they are primarily concerned with the mechanisms of interaction that support individual development through shared social interaction, Wenger (1998) and Rogoff

(1990) offer wider frameworks with which to perceive and scrutinise learning as mediated by broader community constructs.

LEARNING WITHIN COMMUNITIES OF PRACTICE

Wenger (1998) illuminated the simultaneous nature of development through, and development of, participation in wider social communities through his discussion on learning within 'communities of practice' (Wenger, 1998). Wenger refers to 'communities of practice' to describe groups who are connected through common practices and shared pursuits in joint enterprises. These 'communities' need not necessarily be connected geographically or physically, but through their endeavours and mutual participation in shared activity. Wenger explains his conception of practice as '*doing within historical and social context*' (Wenger, 1998, p. 47). Participation within social practices enables an increasing degree of intersubjectivity and mutual understanding of the 'cultural tools' associated with the activity. These 'cultural tools' encompass all of the language, apparatus, gestures and procedures associated with particular activities. It is through participation in social activity that individuals simultaneously apply and extend their conception of their shared understanding, subsequently engendering potential for greater intersubjectivity through greater familiarity with the appropriate cultural tools.

Wenger (1998) emphasised that it is through participation in cultural practices that individuals become increasingly familiar with the associated cultural tools of the practice. Wenger (1998) offers the ideas of 'participation' and 'reification' to explain and explore learning within communities of practice. Reification refers to the processes in which each aspect of the practice, and the tools upon which it depends, become conceptualised through interaction

and participation. *"the process of giving form to our experience by producing objects that congeal this experience into 'thingness'. In so doing we create points of focus around which the negotiation of meaning becomes organized."* (Wenger, 1998, p. 58).

The extent to which individuals are both learning through their participation and learning about their participation in communities of practice, differs according to their familiarity with the practices and its associated cultural tools. From Wenger's (1998) explanation of the interconnection between 'participation' and 'reification', he describes the 'duality' of the processes, in that neither participation nor reification can occur in isolation. However, the quantity of either may not necessarily be equal in specific situations, although they will both be interacting (Wenger, 1998). The development of understanding of the tools for participation, therefore, emerge through participation in social activity, either implicitly or explicitly, and subsequently facilitates further participation.

Wenger's view, that through participation within a cultural activity one is simultaneously developing familiarity with the constituent skills upon which participation depends, has two significant dimensions in relation to school activity. The first dimension relates to the balance between participation and reification, and the extent to which each aspect is prioritised. The second relates to the consequences of this prioritising on the conditions of participation. By participating in, for example, a common playground game of 'hop-sotch', participants may be drawing upon, and developing, skills related to their social development, their physical development, their numeral recognition and more besides, whilst being primarily concerned with playing the game. However, much school *teaching* focuses upon extracting specific skills from the context in which they normally occur, to reify specific competencies, but in so doing one is simultaneously structuring a new set of participatory determinants. For example, a

maths lesson designed to *teach* addition, may foreground the requisite number skills relevant for application in wider contexts, but in so doing it also imposes additional boundaries consequently placing further conditions upon which participation depends.

Rogoff (1990) offers three 'planes of analysis' with which to explore learning within communities. Similar to Wenger's notions of 'participation' and 'reification', these 'planes of analysis' are not separate, detachable, aspects of learning, but are mutually constituting components which can be foregrounded individually, without losing emphasis on their interconnections (Rogoff, 1990). The first view of learning is that of, 'development as apprenticeship', this identifies the process of becoming skilled within communities of practice and the use of its associated cultural tools, emerging, to varying degrees, from a 'novice' towards a 'master', in culturally organised activity to gain greater understanding and facilitating continued participation. The apprenticeship model illustrates how children are inculcated into community practices through their interaction with more experienced others. In addition, it offers a plane upon which to foreground 'position' within communities of practice, and consequently related identities. Rogoff's (2008) second plane, that of 'guided participation', explores the interconnections between individuals engaged in social practices, and focusses on exploring the interpersonal aspects of participation, be they immediately located or distant in either time or space. This view is primarily concerned with the mediational resources of participation in cultural activity. Similar to Vygotsky's notion of 'the zone of proximal development', this view of learning explores how interactions establish what individual agents, know, or can do, determine what else they need to know, or do next, and the arrangement of the means to 'bridge' learning between the two points, through 'simplifications' of cultural tools and practices. In thinking particularly of this process between

adults and children Rogoff (2008) emphasises the active role that each participant takes in supporting, both implicit and overt, processes of cultural development.

...caregivers and children collaborate in arrangements and interactions that support children in learning to manage the skills and values of mature members of their society. Guided participation is presented as a process in which caregivers' and children's roles are entwined, with tacit as well as explicit learning opportunities in their routine arrangements and interactions.

(Rogoff, 2008, p. 65)

Rogoff's view of guided participation, refers to the mediational tools, including language, upon which development is supported, either deliberately or implicitly in cultural action (Rogoff, 2008). In relation to school practice, this aspect foregrounds the mediation between the context and the individual, focussing on the conditions of the activity, the experience of the learners and the extent to which adaptations to the activity, simplifications or elaborations, stretch or limit the children's understanding.

The final plane, 'participatory appropriation', refers to individual agents' transformations through participation in social activity. This plane is concerned with the 'intrapersonal', or cognitive changes, which occur within individuals as they act on their social experiences to construct and re-construct their representations of their world. Participatory appropriation focusses on individual development and transformations of identity through participation in social practices, it is concerned with the individual consequences of interaction with the social worlds that the child inhabits (Rogoff, 2008).

From Wenger's (1998) and Rogoff's (2008) views on individual development as culturally and socially mediated, learning is based within complex interactions which structure development within culturally assembled activities. *"learning transforms who we are and what we can do, it is an experience of identity...a process of becoming"* (Wenger, 1998, p. 215). In considering the interconnections between each aspect as continually and perpetually constituting within participation, how a person's competence within a community is perceived, determines the way in which participation is guided, which in turn, determines how a person's competence within a community is perceived.

TRAJECTORIES

Wenger (2008) offers the idea of 'trajectories' to illustrate how past, present and future activity within cultural practices mutually interact to influence participation and, consequently, influence the conceptions of identity that are appropriated from participation in community practices. Participation within communities of practice is not solely dependent on the immediate interactions but builds from previous experiences and familiarity with similar practices and the cultural tools used to mediate the practice. Similarly, Wenger (2008) explains how, through membership of different communities and participation in different practices, reconciliation between different identities forms a 'nexus of membership'. A term used to explain the 'binding' of seemingly disparate experiences of participation in numerous communities and their practices, which co-construct and re-construct individual identities (Wenger, 2008, p. 149).

Lave and Wenger (1991) offer the idea of 'legitimate peripheral participation' and the centripetal development of 'mastery' within communities of practice, becoming increasingly

skilled with the tools, of the community, to gain greater mastery and continued participation (Lave & Wenger, 1991). The participation within communities of practice is not solely dependent on the immediate interactions but builds from previous experiences and familiarity with similar practices. Wenger (2008) offers five further types of trajectory, the first 'peripheral trajectories', concern the community memberships which do not, or are not intended to, lead to mastery. Whilst a degree of identification comes from some affiliation with a community, peripheral trajectories, as the name suggests, describe paths which do not lead to full participation. The second, 'inbound trajectories', are where the projected paths are that of novices becoming masters within a community. Whereas 'insider trajectories' are related to identity shifts as the practice, and community, evolves. The next 'boundary trajectories' relate to the aspects of identity which span community memberships. Finally, 'outbound trajectories' refers to the redefinition of identity as a consequence of withdrawal from a community (Wenger, 2008, p. 109).

Participation is both enabled, and constrained, by previous experience and influences future experience. Furthermore, experience of cultural tools within one community influences participation in other communities. Wenger (1998) refers to 'multimembership' to describe the 'simultaneous membership of multiple communities of practice' (Wenger, 1998. p.105). However, membership within different communities may be experienced differently. Some practices may transcend communities, whereas others may be specific to one community, or, indeed, be in direct conflict between communities. Similarly, members experience different trajectories and different 'positions' within different communities, from peripheral to full membership.

Wenger's trajectories offer a means by which to conceive of learning as 'movement deeper into practice'. This is relevant in relation to school practices and children's previous experience of the requisite skills upon which participation in school activity depends. Through differing familiarities with the constituent skills required for participation, children experience differing perceptions of their competence within school activity. Bourdieu's (1991) notion of 'field', 'habitus' and 'cultural capital' offer a further dimension for investigating this interaction between personal and institutional histories, within an education system.

Bourdieu (1991) proposed the notions of 'field', 'habitus' and 'capital' as a means by which to view the complex interactions between social contexts, agents' inculcated attitudes and behaviours, and legitimised exchanges between the two. Like Wenger's notion of communities as linked through practice, the notion of 'field' or 'social space', encapsulates not only the physical space of the action, but also the wider sphere, the composite social positions and the historical, social and cultural constructs which regulate the domain (Thompson, 2008). 'Habitus' refers to the behaviours and attitudes which emerge as a consequence of participation, and influences future participation, in communities. Maton (2008) explains the notion of 'habitus' as *"a property of social agents (whether individuals, groups or institutions) ... 'structured' by one's past and present circumstances, such as family upbringing and educational experiences. It is 'structuring' in that one's habitus helps to shape one's present and future practices."* (Maton, 2008, p. 51).

The positional relations of these two aspects, field and habitus, act to elucidate how individual's social and cultural histories influence their trajectories within, or outside of, particular social arenas.

Bourdieu's use of the term 'capital' expounds the processes of more implicit exchanges of assets. Drawing a distinction between economic capital and symbolic capital, e.g. cultural or linguistic, Bourdieu foregrounds specific exchanges between habitus and fields which perpetuate inequalities by legitimising particular behaviours through continuous cultural reproduction. In considering 'linguistic capital', Bourdieu explicates how the use of specific forms of language is legitimised within specific fields and competent users of the valued language are consequently positioned more favourably within the field thus reaffirming the legitimacy of specific linguistic forms (Bourdieu, 1991). Moore (2008) explains the arbitrary nature of exchanges between fields and symbolic capital by emphasising that; *"rather than being grounded in intrinsically worthwhile and superior principles...The legitimations of the system of social domination and subordination constituted within and through these symbolic relations are ultimately based on interest."* (Moore, 2008, p. 104).

Behaviours and dispositions, therefore, are only cultural 'currency' if they are valued by the culture in which they are applied. If participants in cultural activity have experience of the valued practices, then continued participation and reaffirmation is facilitated. Whereas, incongruence between habitus and field, potentially leads to exclusion from, or subordinate positions within, the specific field. From this position, Bourdieu (1990) exposes complex interactions between legitimised cultural practices, educational practices, cultural reproduction and social ordering. An element of which is, he sees, the linguistic experiences of agents in relation to the linguistic requirements of the educational institution.

Focussing on the French education system, Bourdieu (1990) explicates the processes that interact within cultural systems to legitimise cultural practices. Bourdieu observes that teachers within the system are also the product of the system. The linguistic and cultural

favouritism of the French education system is consequently perpetuated, as agents' associated habitus becomes increasingly legitimised and consequently further hidden from reflection.

In looking specifically at the linguistic requirements of the school, in relation to the social uses of language within wider community groups, Bourdieu asserts that the symbolic nature of language use in school differs from practical language used within communities and subsequently particular socio-economic groups are, intrinsically, systematically excluded from full participation in school activity (Bourdieu & Passeron, 1990). Furthermore, Bourdieu stresses the continuous preserving consequences of this on reinforcing conceptions of capability and further exclusion. This perspective is also echoed by Ball (2003), who asserts that schools, as institutions, have structures and practices which are embedded within policy and implicitly favour the cultural priorities of the dominant cultural structures (Ball, 2003). Subsequently, children attend school with cultural experiences which can either be distinct from, or congruent with, the practices of the school. Children's experiences of the linguistic and cultural tools which are required by the school, determines individual's participation in school practices and subsequently determines notions of 'ability'. Labels of 'ability' are ascribed and reinforced throughout a child's schooling and subsequently children develop identities and self-concepts based on other people's perceptions of their competences and capabilities.

Within educational institutions therefore, there is a myriad of influential factors which sculpt pedagogical beliefs, and mediate school based practices. The relationship between learners' experiences of the cultural practices in relation to school practices has the potential to constrain or enhance children's participation in school based learning. From Bourdieu's

perspective, children's familiarity with the cultural practices and linguistic expectations of the school are best placed to participate effectively within it. Therefore, the cultural tools and practices that children engage in within their wider experiences, significantly influence their ability to engage in school practices. Interpretations of a child's ability are entrenched within their capacity to express their understanding in culturally valid ways, and the consequences of these interpretations, potentially, have boundless repercussions for the child's future experiences.

IDENTITIES

Wenger (2008) explores how identity emerges through social interaction and is continually negotiated within participation in different practices. Movement along the variety of trajectories in communities, entails transformations of identity based on negotiating conceptions of competence and relational positions of the 'self'. Wenger (2008) proposes four versions of identity, each constructed by interaction between an individual and the social world.

Identity as negotiated experience. We define who we are by the ways we experience ourselves through participation, as well as by the ways we and others reify ourselves.

Identity as community membership. We define who we are by the familiar and the unfamiliar.

Identity as learning trajectory. We define who we are by where we have been and where we are going.

Identity as a nexus of multimembership. We define who we are by the way we reconcile our various forms of membership into one identity.

Identity as a relation between the local and the global. We define who we are by negotiating local ways of belonging to broader constellations, and of manifesting broader styles and discourses.

(Wenger, 2008, p. 105)

Holland et al. (2008) identify 'relational' identities to describe the construction of social representations of how specific groups or people act and are portrayed. "*Relational identities have to do with behaviour as indexical of claims to social relationships with others.*" (Holland et al., 2008, p. 150). Closely related to Wenger's '*identity as negotiated experience*', Holland et al. use the term 'relational identities' to describe how community members construct their understanding of 'appropriate' action based on perception of their own identity, and their understanding of wider views about the groups of which they consider themselves members. They explain that how one perceives oneself and how communities perceive appropriate action for 'that kind of person' regulates how individuals act. With particular focus on broad categories, e.g. gender or ethnicity, Holland et al. (2008) identify studies (Fordam, 1993; Kondo, 1990) which illustrate the manifestations of community membership culminating in regulatory conditions.

They come to have relational identities in their most rudimentary form: a set of dispositions towards themselves in relation to where they can enter, what they can say, what emotions they can have and what they can do in a given situation.

(Holland et al., 2008, p. 158)

The formation of identities, constructed from community memberships, and the relational influence on activity, from conceptions of how the communities are perceived by others, suggests that behaviour also displays identity. Behaviour, as indexical of identity subsequently

formulates future identity formation, both in the self, and, potentially, in others. Sfard and Prusak (2005) propose that identity can therefore be used as an analytic tool to explore learning. Their view of identity is that it is *"a set of reifying, significant, endorsable stories about a person"* (Sfard & Prusak, 2005). Similar to Wenger's trajectories, they suggest that learning consists of movement from an 'actual identity' to a 'designated identity'.

Actual identity, consisting of stories about the actual state of affairs, and designated identity, composed of narratives presenting a state of affairs which, for one reason or another, is expected to be the case, if not now then in the future.

(Sfard & Prusak, 2005, p. 14)

They attempt to operationalise this by investigating the narratives that, they assert, express, and create, identities. They suggest that designated identities are derived from the interpretations of stories told by others and that these third person narratives turn into first person 'designated identity'. Whilst not suggesting that the views of others are merely transmitted from one person and assimilated by another, this view proposes that how groups and individuals are represented within communities, becomes the basis upon which groups and individuals perceive and reflect themselves. However, Sfard and Prusak (2005) explain that the influence of the depiction of groups by others, through narratives, on individuals is dependent upon the significance of the 'narrator' to the individual.

Whether a story told by somebody else does or does not make it into one's own designated identity depends, among other things, on how significant the storyteller is in the eyes of the identified person. Significant narrators, the owners of the most influential voices, are carriers of those cultural messages that will have the greatest impact on one's actions.

(Sfard & Prusak, 2005, p.18)

Sfard (2006) argues that narratives become a tool for exploring the 'individualization of the collective', and the 'communalization of the individual' (Sfard, 2006, p. 23). In that how individuals communicate about others in relation to their perceived community membership, influences how members reflect themselves to others and construct their expectations for their futures. Whilst using the term 'narrative', Sfard (2006) further explains this to be more akin to 'messages' carried within interactions, than a rigid focus on explicit dialogue. Similar to Cole's View of wider cultural prolepsis, designated identities are, interpretations of what individuals will be, how they will act and how they are to be positioned.

Learning, therefore, from a socio-cultural perspective, is multi-faceted and, to an extent, unpredictable, in that there are many reciprocal and variable dependants which symbiotically both contribute to and develop from social interactions. It encompasses adaptation from both collective and individual aspects. Furthermore the reciprocal influence of participation and adaptation mediates, and contributes to, social practices on a variety of levels and interconnects social, cultural and individual activity. From a socio-cultural view, therefore, social practices represent a mutual and continual interplay between local and cultural histories. This is apparent from, although not limited to, learning in educational institutions and the practices employed to attempt to facilitate learning.

The interconnection between experience of cultural practices and continually enhanced participation within cultural practices, demonstrate how experience of the 'cultural tools' required for participation in school practices have the potential to constrain or enhance children's participation in school based learning. In that, the cultural tools and practices that children engage in, within their wider experiences, influence their ability to engage in school

practices, and furthermore, influence how they perceive themselves and how they are perceived by others. This is particularly pertinent in relation to assessment practices and interpretations of ability for the grouping of children. Interpretations of children's ability are dependent upon perceptions of their performance within culturally valued activity. In direct contrast to a view of ability as fixed and measurable, this view perceives ability within the transaction between past and present experiences. Congruence between the practices in different contexts potentially determines position, in that those who have experience of culturally valid forms of expressing and developing their understanding are positioned favourably within the school structures. Whereas those whose experiences are sculpted by alternative practices, are inadvertently positioned on the periphery. It would seem, from this view, that segregation of children whose experiences have enabled them to develop culturally valued tools for participation in school, from those whose previous experiences differ would serve only to perpetuate divisions.

PEDAGOGY AND PRACTICE

A fundamental aspect of the research is to investigate educational practices. One could conceive of practice as relatively simple and easily identifiable, it relates to what is done; an action to be seen in a single temporal space. With reference to social practice, however, Wenger (1998) provides a much broader and all-encompassing explanation:

Such a concept of practice includes both the explicit and the tacit. It includes what is said and what is left unsaid; what is represented and what is assumed. It includes the language, tools, documents, images, symbols, well-defined roles, specified criteria, codified procedures, regulations, and

contracts that various practices make explicit for a variety of purposes. But it also includes all the implicit relations, tacit conventions, subtle cues, untold rules of thumb, recognizable intuitions, specific perceptions, well-tuned sensitivities, embodied understandings, underlying assumptions and shared world views.

(Wenger, 1998, p. 47)

From this view, the term *practice* incorporates activity from the minute to the expansive. Importantly, it includes acts which are both apparent and those that are invisible. From Wenger's view, practice emerges from complex multilevel interactions, and is shrouded in assumptions, beliefs and conjecture. From the seemingly idiosyncratic behaviours to the widespread norms within any cultural system, actions are entrenched in a complex interaction between the pasts, presents and the futures, of individuals and social systems.

In relation to practice within educational institutions McCormick and Murphy (2008) identify three curriculums which, they suggest, represent three different, yet interdependent, levels of school activity. The 'specified curriculum' refers to the explicit content of *what* should be taught. This, they assert, represents the accumulation of the skills and knowledge deemed to be required for participation in wider cultural activity. Whereas the 'enacted curriculum' refers to how the process of teaching and learning is socially organised at institutional level. Similarly, the 'experienced curriculum' refers to how individuals act upon, and are influenced by, these enactments (McCormick & Murphy, 2008). Each element of the curriculum mediates and is mediated by the others. Each is informed by, and informs, interpretations of appropriate practice, and each is influenced by, and influences, conceptions of learning and development. The interconnections between each of these elements are not, however, equally influential.

Alexander (2010) refers to the term pedagogy to conceptualise the multilevel interdependent aspects of practice that connect teachers' activities to the beliefs that shape them. He explains pedagogy as *"the act of teaching together with its attendant discourse. It is what one needs to know, and the skills one needs to command, in order to make and justify the many different kinds of decisions of which teaching is constituted."* (Alexander, 2010, p. 280). Although this account foregrounds the teacher, pedagogy encompasses all of the theory and beliefs which sculpt both the institutional policies and the teaching practices of teachers. This encompasses perspectives on the process of learning which influence how the curriculum is enacted through the practices in which educators participate to attempt to facilitate their learners' learning.

Bruner (1996) suggests that ideas about the nature of learning underpin educational practice, but also form the basis with which to perceive, and judge, the suitability of the practice. Subsequently, he argues, conceptions of children's 'minds' can create a 'Folk Pedagogy'. Varying views of learning place differing emphases on individual endeavour and social interaction within the process. From a 'sign/symbol processing' perspective, in which learning is seen to occur by 'passively receiving' information, through perspectives which view the mind as 'agentive' in that individuals 'act' on the information that they 'receive' to reconcile previous and present experiences to construct and re-construct their understanding, to perspectives which view minds as distributed (McCormick & Murphy, 2008). Each perspective on how children think and learn prioritises different practices which, Bruner suggests, in turn reinforces the underlying assumptions that construct them. For example, if one conceives of learning as merely 'remembering' information, then the techniques employed to achieve a specific goal are determined from this belief. In addition, from this view, failure to 'learn' the information can be perceived as a consequence of limitations within an individual. Similarly,

if one conceives of learning as movement deeper into community practices, then the type of activity provided to facilitate a learning trajectory would be determined from that perspective.

Different individual and institutional pedagogy determines practice and is underpinned by theoretical perspectives on the nature of children's minds and conceptions of learning. In relation to McCormick and Murphy's (2008) three curriculums, the mutual dependency of the specified, enacted and experienced curriculums demonstrates the influence of wider cultural constructs upon individual activity, as practice is not only determined by values and beliefs, both pedagogical and personal, but also reflects and transmits them.

Different approaches to learning and different forms of instruction—from imitation, to instruction, to discovery, to collaboration—reflect differing beliefs and assumptions about the learner—from actor, to knower, to private experienter to collaborative thinker

(Porath & Bruner, 2000, p. 50)

The continuous interplay between the assumptions about the nature of learning that underpin classroom practice, and the reflection of these assumptions within classroom practice, further popularises specific practices and views on learning, subsequently disguising 'perspectives' and 'assumptions' as 'truths' by assimilating them into a 'cultural given'. These 'truths' about learning become accepted and subsequently form the foundations upon which learners' competencies are perceived, and upon which learners perceive their own competencies (Porath & Bruner, 2000).

Intertwined with views on the nature of children's minds and the processes for learning, views about the nature of 'knowledge' also influence beliefs and practices advocated at national, institutional and individual levels. From a view of learning as the mere acquisition of knowledge, to a view of learning as the development of multifaceted and multifarious interconnected skills and competences, views on the nature of 'knowledge' influence the specified, enacted and experienced curriculums. This, in turn, simultaneously constructs and reinforces pedagogic belief and community practices, which then, concurrently, act to construct, dispel and reinforce differing emphases on the nature of knowledge and the appropriate means of developing, and measuring it.

Perspectives on learning which view minds as 'local', existing within an individual, subsequently view knowledge as an 'acquired commodity' which implies a measurable possession of an individual and therefore impacts on the assessment practices which aim to 'measure' understanding through individual tests and assessments. Conversely the 'situated' view, which sees minds as 'distributed' within social interaction, views conceptions of 'knowing' as evident from participation in socially posited activity (McCormick & Murphy, 2008). Although perspectives on the influence of social interaction within the processes of learning vary, within school assessment practices the focus remains on what the individual 'can do' in isolation from others. Just as perspectives on learning influence practice, which in turn reinforces conceptions of learning and learners, so too do perspectives on knowledge. How one perceives knowledge influences how one determines the means of forming it, which in turn, influences, and is influenced by, how one perceives learning and its outcomes. Furthermore, how each of these are actualised has repercussions, both for validating the associated beliefs, and for structuring the experiences of the learners.

The pedagogical implications of assessment practices are further exemplified through 'Achievement Goal Theory' (Nicholls, 1984; Dweck, 1986; Ames, 1992; Brookhart & Durkin, 2003; Alkharusi, 2008) which explicates the 'goal structures' and their implications for individuals' motivation and achievements. These goal structures are typically categorised as *Learning* goals (alternatively referred to as *Mastery* goals), in which effort, persistence and achievement are prioritised, and *Performance* goals, in which perceptions of competence are prioritised. Alkharusi (2008) provides a definition of the distinction between the two goals as "*Mastery goals center on the development of competence whereas performance goals center on the outward showing of competence*" (Alkharusi, 2008, p. 224). Focusing on the distinctive behaviours connected to each goal, Dweck (1986) demonstrates the motivational processes associated with each and the differing theories of intelligence upon which the different goal structures are premised.

Basically, children's theories of intelligence appear to orient them toward different goals: Children who believe intelligence is a fixed trait tend to orient toward gaining favorable judgments of that trait (performance goals), whereas children who believe intelligence is a malleable quality tend to orient toward developing that quality (learning goals). The goals then appear to set up the different behavior patterns.

(Dweck, 1986, p. 1041)

Brookhart and Durkin (2003) extend this further by implicating the classroom environment on the construction of theories of intelligence, goal orientation and goal orientated behaviours. In exploring the specific situational factors which influence each of the goal orientations, they attribute emphasis upon social comparison in evaluation, assessment, procedures to performance goals and conceptions of fixed abilities (Brookhart & Durkin, 2003).

Alkharusi (2008) also implicates assessment practices in the development of goal orientation. Exploring the connections between teachers' assessment practices and student achievement goals, Alkharusi (2008) also attributes the public evaluation of students' competence to greater performance goal related behaviours. Assessment focussed on overt evidencing of competence engenders a focus on performance and, consequently, potentially provokes the 'maladaptive motivational patterns' that Dweck (1986) asserts are characterised by avoiding challenges and low persistence. Whereas, mastery based assessments, potentially construct conceptions of learning which facilitate positive motivational processes (Alkharusi, 2008).

In considering the institutional interactions which create and sustain inequality, Ball (2003) also identifies assessment as one of the means by which the exclusion of some children is structurally established through institutional ordering, i.e. *"the allocation of student roles, positions and identities, and the distribution of resources and attention, predicted futures and esteem"* (Ball, 2003. p. 8). Elwood (2008), focusing on the repercussions of assessment, also demonstrates how practices act to reinforce myths of inherent 'deficiency', through a focus on individual knowledge and ability as separable from social and cultural experiences (Elwood, 2008). The schools' measurement of the skills within individuals, in isolation from others, and the use of these assessments to measure the 'successes' of the learners, exemplifies the continual interplay between the levels of social order and the experienced world, in that those from a specific culture are determining the means and measures by which to judge 'success', and sculpting the measures by which individuals are led to evaluate their own 'successes'.

Pedagogy structures the experiences of the learners through conceptions of the subject specific content to be developed, the methods deemed to be appropriate for engendering

and measuring the desired skills, and the effectiveness of these methods for achieving their aims. These decisions, at macro and micro levels, determine the practice, which in turn, both structures and reflects conceptions of learners in a continual interplay between communities and individuals.

Any choice of pedagogical practice implies a conception of the learner and may, in time, be adopted by him or her as the appropriate way of thinking about the learning process. For a choice of pedagogy inevitably communicates a conception of the learning process and the learner. Pedagogy is never innocent. It is a medium that carries its own message.

(Porath & Bruner, 2000, p. 63)

Classroom practice, therefore, is both influenced by and indicative of, implicit and explicit perspectives on learning and development. It is saturated with the values and theories which inform it, and upon which interpretations of its suitability are evaluated. These values incorporate the beliefs and priorities held by individuals and institutions, as well as the beliefs and policies which inform the educational climate and determine the parameters of individual activity. The term *practice*, therefore, is far from straightforward, it includes multilevel activity and action embodied by beliefs for implicit and explicit purposes, with both deliberate and unintentional consequences.

CHAPTER 3: REVIEW OF LITERATURE ON THE GROUPING OF CHILDREN IN CLASSROOMS

CHAPTER INTRODUCTION

This chapter explores classroom based research into group-work practices and considers research findings on the utility of different grouping practices for learning and development. The chapter firstly outlines some definitions of terms used to describe different forms of grouping and then explores research into the popularity of different grouping practices, historically and currently. It then explores research on the impact of ability grouping on academic achievement and the development of perceptions of competence. The chapter then explores perspectives on the use of intervention groups in schools, with consideration of the pedagogical assumptions that underpin, and are projected through, the practice.

RESEARCH INTO GROUPING PRACTICES IN SCHOOLS

DEFINITIONS AND UNIVERSALITIES

Within educational institutions all children encounter some form of grouping, however, the extent and variation of grouping practices, and experiences within different groups, is individual (Kutnick et al., 2002). Although applied to describe different grouping practices within other research, for the purpose of this research the term 'ability group' is used to describe the practice of small groupings of children within mixed ability classrooms. Further definitions of the terminology used to describe specific grouping practices are provided by Ireson and Hallam (2001), where '*Streaming*' is used to describe the placing of pupils in classes based on assessment of their general ability. '*Banding*' is the term used to describe the

grouping of pupils in clusters or classes on the basis of a test of their general ability. 'Setting' is more subject specific, where pupils are grouped according to their attainment in a particular subject. 'Within class ability grouping', as the name suggests, refers to the practice where pupils are grouped within their class on the basis of their ability, but may be grouped differently within their class for different subjects. Whereas with 'Mixed ability' groups, the grouping of pupils may be based on other factors, or a deliberate mix of pupils of differing ability (Ireson & Hallam, 2001, p.10). The term 'Intervention group' relates to the targeting of specific children for a specific purpose. This usually involves removing small groups of children from their usual class activity to follow an intervention programme, which Houssart and Croucher (2013) explain as "*materials and instructions, usually for short- or medium-term use, aimed at raising selected pupils' attainment*" (Houssart & Croucher, 2013, p. 428).

Within each of these definitions of grouping practices, there is no universal comprehensive indicator of 'ability', some groups are based upon general ability determined using cognitive reasoning tests, some may be based on standardised, subject specific, assessments and tests, whereas others may be based upon assessments devised by individual teachers. Similarly no standardised practice of movement between groups exists. Some groups allow for movement based on individual variation of children's capability with specific skills in individual curriculum subjects. Whereas, others are more rigid and children's position within each group may be static with no opportunity to move groups (Ireson & Hallam, 2001). Subsequently, the variety of grouping practices, and movement between groups may be experienced differently by children within different contexts. In addition, interpretations of a child's ability are, generally, based upon their performance within a specific context, without account of that context being taken. Furthermore, the context specific determination of ability is relationally dependent on interpretations of the other members' abilities, consequently, the same child

may be considered high-ability in one context, but low ability in another, depending on the 'abilities' of the other members. The consequences of this relational referencing of ability on children's academic self-concepts have been exemplified through the 'Big fish little pond effect' (Marsh, 1987; Zeidner & Schleyer, 1998; Marsh & Hau, 2003; Marsh et al., 2008; Liem et al., 2012). This is the effect by which high ability children in contexts where average abilities were deemed high, were seen as having lower academic self-concepts than high ability children in contexts where average ability was lower.

Ability grouping, therefore, is far from straight forward with several possible types of grouping, applied in different ways, in different contexts, for different purposes with different results. As discussed previously, the use of each of these differing grouping practices are dependent upon the differing pedagogical assumptions that underpin each of them, however, there do appear to be commonalities in the beliefs which shape them. Each reflect a view of learning as a systematic, linear, process in which children's learning needs are best addressed by exposing children to curriculum content most relevant to their specific level of understanding. Similarly, each determines ability by, varying, measurements of an individual's performance. Though concerned with the organisational features of the class activity, the practices are designed to engender the specified curriculum content in individual children but the wider consequences of ability grouping practices deserve, and have received, much attention.

HISTORICAL TRENDS

From a review of the literature on grouping in English schools throughout the 20th Century, Ireson and Hallam (2001) identify historical trends in grouping practices and track the rise and fall of the popularity of specific groupings. They assert that between the publication of the

Hadow Report in the 1930s and the Plowden Report in the 1960s, streaming was commonplace within English Primary schools and attribute the practice of streaming at this time, to a view of 'intellect' as inherited and fixed. From this position, one of the objectives of an education system was seen as suitably attending to the varying fixed potentials of children's innate capacities. Ireson and Hallam (2001) attribute the restructuring of Primary school groupings, into mixed ability classes, to the decreasing use of the 11-plus examination, as well as the influence of research, at the time, by Willig (1963) and Barker, Lunn (1970) into the effects of streaming on self-esteem and social alienation.

Sukhnandan and Lee (1998) tracks a similar rise and decline in the popularity of streaming in British Primary schools, attributing the demise in the prevalence of streaming to research which focussed on the negative impact of ability grouping based on cognitive and non-cognitive outcomes (Hargreaves, 1967; Lacey, 1970; Rosembaum, 1976; Ball, 1981; Oakes, 1982, 1985; Abraham, 1989). Much of this research highlighted the negative social repercussions of ability grouping in schools and gave particular attention to the over-representation of particular socio-economic groups within lower ability streams, as well as the differing quality of teacher expertise assigned to lower and higher groups (Sukhnandan & Lee, 1998). In the latter part of the 20th Century, the desire for a more socially just education system saw the increase of mixed ability classes. Ireson and Hallam (2001) also attribute changes in grouping practices, at this time, to differing conceptions of intelligence and learning which popularised specific pedagogical approaches and practices. The decline of streaming and conversion to mixed ability classes in British Primary schools, did not, however, mean the end of ability grouping.

Despite differing conceptions of the nature of 'intellect', scrutiny of the inequity of educational opportunity and an increased rhetoric espousing an objective for an egalitarian educational system over the last 40 years, the practice of grouping children based on some interpretation of their ability appears to remain prevalent.

PREVALENCE OF ABILITY GROUPING

Ireson and Hallam (2001) suggest that the comparative low attainment of British children in relation to other countries, and global market pressures have led successive governments to advocate *setting* and *within-class ability grouping* in Primary schools. Sukhnandan and Lee (1998) also attribute the resurgence of ability grouping to market forces, however they see these in terms of competition amongst schools and the desire for schools to be fully subscribed, and subsequently fully funded.

Research which has attempted to identify the preponderance of different grouping practices has tended to focus on Secondary schools. However, a survey by Ofsted in 1998 found that over half of all Primary schools (for four to eleven year olds) placed children in sets for at least one subject with just over a third of infant schools (for four to seven year olds) and almost two thirds of junior schools (for seven to eleven year olds) setting for some subjects (Hallam et al., 2004a).

Kutnick et al. (2002) also undertook research into grouping practices within Primary schools in England, focussing on Years Two and Five (six or seven year olds and nine or ten year olds). Their study required participating teachers to map the position of their children at specific points within their normal school day and class activity, as well as complete a questionnaire

giving further descriptive detail on group composition, learning task and adult support. From the 111 schools involved in this research, they identified that small groups of between four and six pupils were the most common type of grouping found, and that these groups were more likely to be composed of similar ability children than mixed ability children (Kutnick et al., 2002).

Hallam et al. (2004a) also undertook research into grouping practices in primary schools, within England and Wales. They used a questionnaire to establish the types of grouping and determine the influence of the National Strategies, in Literacy and Numeracy, on the grouping practices used in schools. From their research they also found that from the 2000 questionnaires sent out, of the 804 schools which responded to their survey, within-class ability grouping was the most common form of grouping in Primary classrooms. This research also asserts that decisions about grouping practices were primarily based upon a desire to raise attainment, and a belief in the role of ability grouping to facilitate greater learning by suitably matching school work to children's existing capabilities (Hallam et al. 2004a).

From their 'Millennium cohort study', Hallam and Parsons, (2013) determined that of the 8875 children involved in their longitudinal study, 16.4% of the Year Two children were in streamed classes. Of the children not streamed, 23.4% were in set classes for Literacy and 29.7% were in set classes for Numeracy. They also attribute selective grouping to its perceived role in raising standards, and illustrate this from the Department for Education guidance equating ability grouping to increased attainment (DFE, report 16/93, cited in Hallam & Parsons, 2013, p.515).

An additional dimension to the assertion that particular forms of grouping facilitated attainment, comes from further research by Hallam et al. (2004b) which explored Primary school children's perception of their grouping, in which they were found to be aware of differences in the pace, work and expectations for different groups. Most notably, the children gave justifications for these differences which were similar to those given by the adults, particularly in the suitable matching of work to pupils and a deliberate gender spread to minimise disruptive behaviour (Hallam et al., 2004b).

RESEARCH INTO ABILITY GROUPING IN SCHOOLS

IMPACT OF ABILITY GROUPING ON EDUCATIONAL ACHIEVEMENT

From their investigation into grouping practices Hallam et al. (2004a) identified 'attempts to raise attainment' as a key factor determining grouping practices in school. However, research into the utility of this practice for this aim is inconclusive. Evaluation of the utility of specific grouping practices for academic achievement is multifarious, partially due to grouping practices being only one of the potential differentials and subsequently achievement, or lack of, can't be attributed to grouping practices in isolation from other factors. Slavin (1987) reviewed research evidence on ability grouping in American elementary schools to compare the relative utility of each form of ability grouping. Slavin (1987) reported slight increased effects of within-class ability grouping for upper elementary classes in mathematics, in comparison to any other form of grouping. Similarly, Slavin (1990) applied the same interrogation of research findings on ability grouping to American secondary schooling and found no notable advantage to any form of ability grouping (Slavin, 1987, 1990). However, Sukhnandan and Lee (1998) point out that the, minimal, benefits of with-in class grouping

were found in relation to other forms of ability grouping, and took no specific account of the potential negative effects in relation to the academic gains.

From a Meta-analysis carried out by Lou et al. (1996), who quantitatively synthesised 20 findings from 12 research studies, comparison between 'heterogeneous', mixed ability, and 'homogeneous', same ability, groups also concluded that student achievement was slightly higher in homogeneous ability groups than in heterogeneous ability groups (Lou et al., 1996). A further exposition of these findings concluded, however, that this was not evenly attributed to each of the different ability groups. Although, overall, Lou et al. suggest that same ability groups indicate advantages on achievement compared to mixed ability groups, these advantages were predominantly found for the middle ability groups whereas achievement for low ability students was greater in heterogeneous than in homogeneous ability groups. Furthermore, no significant influence of grouping by ability was identified for the achievement of high-ability students (Lou et al., 1996).

The inequity in distribution of perceived advantages to ability groupings was also illustrated by Lleras and Rangel (2009), who investigated the achievements in reading of ability grouped and non-grouped children in their early school years. Focusing on African American and Hispanic students in elementary school, Lleras and Rangel (2009) assert that children who were in high groups for reading instruction progressed slightly further than those non-grouped, whereas children who were in low groups learned substantially less than non-grouped children at similar starting points (Lleras & Rangel, 2009).

Although inconclusive, the benefits or disadvantage of ability grouping for educational achievement were dependent largely upon position within the groupings. The perceived

benefits for one group were potentially at the expense of another's (Sukhnandan & Lee, 1998). Boaler et al. (2000) explored English secondary school pupils' experiences of ability groups, in both set and with-in class groups, and found that work, at different levels, was often mismatched to children's existing capabilities. Boaler et al. (2000) found that conceptions of ability were polarised and children within high ability groups were presented with work that was well above their existing level, whereas children in lower ability groups were set tasks that were monotonous and lower than their capabilities would have allowed (Boaler et al. 2000). In considering this against Cole's (1998) view of prolepsis, in which projected futures resulted in expectations which impose constraints, or freedoms, upon the present, the consequence of grouping practices appear particularly relevant when considered alongside the relatively arbitrary means by which children are allocated to groups.

MIS-GROUPING

The mis-grouping of children by ability, adds a further dimension in considering the impact of grouping practices on development, and educational achievement. As discussed, the measures used to determine ability and the allocation of children to groups, vary considerably across contexts and are, in the main, based purely upon children's application of specific skills within a specific context.

In considering the saliency of within-class ability grouping for children in Years three to five (seven to ten year olds), Macintyre and Ireson (2002) found little actual variation in children's ability in Maths, compared to the perceived breadth in range of abilities. Furthermore, within their research Macintyre and Ireson (2002) found considerable overlap between Maths ability

according to standardised Maths tests, from the National Foundation for Educational Research (NFER), and within-class ability groupings for Maths (MacIntyre & Ireson, 2002).

This mis-grouping has further resonance when considered in relation to research from a longitudinal study in the United States, conducted by Sorhagen (2013), into the effects of teacher expectations in early schooling on students' future achievement. With a particular interest in the impact of socio-economic factors on teacher expectations, Sorhagen (2013) compared teachers' responses to a questionnaire on their participating children's skills and abilities in specific subjects, to standardised tests of cognitive abilities, using '*Woodcock-Johnson – Revised*' (WJ-R) assessments. The discrepancies between first-grade teachers' perceptions of abilities and results from tests, were used to compare the children's performance in tests at specific points further in their schooling. The research asserts that first-grade teachers' discrepancies in judgements of their children's abilities, in relation to their test scores, affected children's performance within the High School years. The study reports a small, yet significant effect of under-estimation and over-estimation on children's test performance in '*math, advanced reading vocabulary knowledge and verbal reasoning*' at aged 15yrs.

When teachers underestimated student's abilities in the first grade, the student's WJ-R scores at age 15 were lower, even after taking into account prior measures of ability, gender, ethnicity, family income, and noncognitive factors known to influence achievement. On the other hand, when a student's academic abilities were overestimated, his or her later performance on the WJ-R was higher, again controlling for prior academic ability, demographics, and the noncognitive covariates.

(Sorhagen, 2013, p. 470)

These studies adopt the contestable position that the use of standardised tests is a superior, more precise, measurement of ability than more naturalistic means of assessing individual capability. However, despite this controversy, the potential of grouping practices having a 'self-fulfilling' effect on individual achievement is significant when considered against the prevalence of ability grouping in schools.

IMPACT OF ABILITY GROUPING PRACTICES ON SELF-CONCEPTS AND ATTITUDES TO SCHOOL

In contrast to the equivocal findings of research into the impact of ability grouping on educational achievement, much research into the influence of ability grouping on children's self-concepts, self-esteem and attitudes to school shows a greater consensus. From their review of the literature related to non-cognitive outcomes of ability grouping Sukhnandan and Lee (1998) cite several studies which have explored the effects of ability grouping on self-perception (Marascuilo & McSweeney, 1972; Devine, 1993). They found that children in high ability sets had increased self-esteem, whereas each of the other sets' self-esteem was decreased, compared to non-grouped children, and with-in class groups showed better self-esteem, than any other form of ability grouping (Sukhnandan & Lee, 1998). Similarly, Hallam et al. (2004a) cite research (Willig, 1963; Barker Lunn, 1970) which suggested that pupils' attitudes to school in mixed ability classes were more positive than children in streamed classes.

Much of the recent research into the impact of ability grouping on children's self-concepts and educational self-concepts has focussed upon selective education for specific groups, particularly those based on ability status as 'gifted' (Preckel & Brull, 2008; Preckel et al., 2010; Vogl & Preckel, 2013). These explored the impact of allocating children to 'gifted' classes upon

their academic self-concepts. Citing the 'Big fish little pond effect' (Marsh, 1987), which asserts that academic self-concepts are relationally dependent upon conceptions of others' abilities, this research emphasises that academic self-concepts are influenced by group position and composition, in that referencing peers to establish position, impacts upon individual students' reflection of their own competence. Ireson and Hallam (2009) also attribute position to students' academic self-concepts, finding that students in high ability groups had a more positive academic self-concept than students in middle or low ability groups. This research also asserts that students had particularly low academic self-concepts when in highly, and overtly, stratified schools, when compared to the academic self-concepts of students in schools with little, or discreet, ability grouping practices. Furthermore Ireson and Hallam (2009) attribute motivation for learning to academic self-concepts, asserting that children with low academic self-concepts were less likely to engage in future learning.

These research findings, claiming correlations between self-concepts and grouping positions, could be accounted for when considered against Wenger's (1998) perspective on the construction of identities in response to reconciling social experiences, and the associated repercussions on their trajectories. This is particularly significant in relation to the view of *Identity as negotiated experience*, which asserts that the definition of oneself emerges in "the ways we experience ourselves through participation, as well as by the ways we and others reify ourselves." (Wenger, 1998, p. 149). This is closely aligned to Sfard and Prusak's (2005) view of *designated identities*, and their perspective that how groups and individuals are represented within communities, become the basis upon which groups and individuals perceive and reflect themselves. From these views, the messages conveyed through overtly ordering individuals, based on any measure, have repercussions upon how individuals perceive themselves, their competence and their value within the community.

Many of the other criticisms of ability grouping, and the negative effects, have been attributed to 'lack of mobility between groups', 'over-representation of particular ethnic and socio-economic groups', 'inequality of the expertise of adults working with different groups', 'stigmatisation of children in lower groups', 'different type of task and instruction' and 'different pace of lessons' (Ireson & Hallam, 1999). Much of this research was directly related to streaming, as opposed to more currently prevalent grouping practices, however, research carried out since the demise of widespread streaming in primary school has some notable parallels.

PARALLELS BETWEEN HISTORIC RESEARCH AND CONTEMPORARY GROUPING PRACTICES

Much of the research into the repercussions of ability grouping in schools relates to the practice of streaming, however, some of the historical criticisms of streaming appear to remain applicable to current practices. From the research by Kutnick et al. (2002), of the groups working with an adult they found that adults tended to work with same-ability groups, and that the adult working with high ability groups was more likely to be a teacher whereas, of the low ability groups working with an adult they were most likely to be with an adult who was not a teacher. This echoed previous concerns raised by Oakes (1985), in relation to streaming (tracking), on the inequity of distribution of expertise amongst different ability groups. Macqueen (2013) also draws parallels between historic research into the inequity of streaming to current practices of ability grouping. With particular reference to Jackson's (1964) study, Macqueen (2013) identifies similarities in contemporary practices, within Australian Primary schools, with regard to teacher expectations of low ability groups, the allocation of pupils to groups and the lack of mobility between groups. Macqueen (2013)

outlines inequities of opportunities for lower streamed groups based on both the 'social opportunities' and the 'teaching practices'. *"Students placed in low-achieving classes are taught in smaller groups, limiting social interactions and role models, and are provided the most limited curriculum, presented through inferior pedagogies."* (Macqueen, 2013, p. 307).

Although the practice of grouping children by ability, appears to be the most common type of grouping found in English Primary schools, Kutnick et al. (2002) noted that, whatever the grouping or group composition, the children were much more likely to be working on an individual task than on collective or collaborative activity. This was also acknowledged within the 'Social Pedagogic Research into Groupwork' (SPRinG) Project (Blatchford et al., 2005) which found that opportunities for group-work and discussion within UK classrooms were not being utilised. The SPRinG Project noted that, within the schools involved in their research, children were often physically grouped together within classes, but were given separate, individual tasks to complete (Blatchford et al., 2005). This also echoed findings by Galton and Williamson (1992), who undertook research into group-work practices in English Primary schools, and found little of the group-work that would require children to be physically grouped together, questioning the purpose of physically grouping children at all.

With apparently little research finding actual educational advantage to ability grouping, in addition to research suggesting detrimental consequences of these practices, Sukhnandan and Lee (1998) suggest that the practice lingers as it appeals to specific groups of parents who maintain conceptions of their children's intellectual superiority and that these are the groups that schools aim to attract, in order to achieve high results on league tables and retain status and viability (Sukhnandan & Lee, 1998). Ability based groupings suggest an egalitarian system based solely upon notions of aptitude which offer illusions of a meritocracy in which the

achievement of specific socio-economic groups is legitimised (Tomlinson, 2008). In addition, national advice, guidance and policy from the DFEE and OFSTED advocating ability grouping is popularising ability based grouping practices by ensconcing it in conceptions of 'outstanding' teaching, or coercing schools to adopt specific practices in anticipation of improved results. The continuous equating of ability grouping to *good practice* and *raised standards*, without any specific definition of ability, is also outlined within the 'Learning without Limits project' (Hart et al., 2004).

The conviction that it is helpful, indeed essential, for teachers to compare, categorise and group young people by ability in order to provide appropriate and challenging teaching for all has been reinforced again and again in reports by Her Majesty's Inspectorate (HMI) since the late 1970s. It has also been given strong endorsement by government-sponsored initiatives to raise standards since the Education Reform Act of 1988. OFSTED inspectors are briefed (and trained) to check that teaching is differentiated for 'more able', 'average' and 'less able' pupils.

(Hart et al., 2004, p. 8)

Oakes (1995) too suggests that ability grouping, in its many forms, is dependent upon underlying assumptions about the nature of intellect and the purpose of education. She concludes from research into decisions about 'tracking', or streaming, that it results from a *"synergy of three powerful factors: differentiated, hierarchical curriculum structures; school cultures alternatively committed to common schooling and accommodating differences; and political actions by individuals within those structures and cultures aimed at influencing the distribution of advantage"* (Oakes & Guiton, 1995, p. 30).

The influence of curriculum structures and central directives, on individual activity, is exemplified by the pedagogic implications of the use of intervention programmes for small groups of children categorised as 'underachieving' or 'vulnerable to underachievement'.

INTERVENTION GROUPS

The use of intervention programmes for small groups of children deemed to be underachieving, is premised upon the same pedagogical assumptions about learning and learners as within-class ability grouping practices. However, their structuring to facilitate their management by teaching assistants (TAs) adds an additional dimension to their use. Webster et al. (2011) advocate their use as a means of providing a pedagogic role for TAs, to counteract their findings that TA support had a negative impact upon pupil attainment. However, Gibson and Patrick (2008) argue that the lack of training required to implement and run the groups, influences the structure of the programmes and that this structure validates a specific, centrally determined, pedagogy.

Webster et al. (2011) explored the roles of TAs in schools and suggested that intervention groups were the most effective and efficient way for TAs to develop a pedagogic role with a positive impact on pupil progress. Their research had been primarily concerned with the role of TAs within class, and summarised findings from the 'Deployment and Impact of Support Staff' (DISS) project (Blatchford et al., 2008) which found the deployment and management of TAs as having a negative influence upon pupil attainment. Though attributing much of the negative influence to wider situational factors governing the TAs' roles, responsibilities and training, the research explores several aspects of pupils' interactions with TAs which account for their findings of a negative impact of TA support on children's academic attainment.

The DISS findings on *practice* make it clear that pupils' one-to-one interactions with TAs are not only longer, more sustained and more interactive compared with their interactions with teachers, but these interactions are much lower in quality. TAs are more concerned with getting tasks completed than with learning and understanding; and inadequate preparation leads to TAs' interactions being re-active. In addition, Radford, Blatchford, and Webster (in preparation) found that a key difference between teacher-to-pupil talk and TA-to-pupil talk is that teachers generally 'open up' pupil talk, whereas the TAs 'close down' the talk, both linguistically and cognitively. TAs, therefore, do not know how to make the best use of the extended, more frequent interactions they have with pupils, compared with teachers: TAs' interactions fail to foster active pupil participation which has longer term implications for creating passive learners.

(Webster et al., 2011, p. 14)

Webster et al. (2011) suggest that structured intervention programmes offer TAs an opportunity to undertake a pedagogic role in schools and, if trained and supported well, could be utilised to raise pupil achievement and reverse the negative relationship that, they assert, exists between TA support and pupil progress (Webster et al., 2011).

OFSTED has also advocated the use of intervention programmes led by TAs. OFSTED undertook a small-scale survey into the impact of National Strategy approaches to intervention groups. Whilst promoting their effectiveness, this survey also identified factors which impacted upon this.

Intervention was more effective in the primary schools than in the secondary schools visited and stemmed from careful analysis of pupils' weaknesses, flexible planning of programmes, thorough training of key staff

and effective monitoring and evaluation. Good leadership and management contributed to the successful impact.

(Ofsted, 2009, p. 1)

Gibson and Patrick (2008) argue that the changing role of the classroom TAs “*serve as a conduit for a centrally contrived pedagogy*” (Gibson & Patrick, 2008, p. 25). Focussing on one, commonly used, intervention programme, *Additional Literacy Support (ALS)*, they use the ‘example scripts’ which are said to illustrate the ‘perfect lesson’, to explore the underlying assumptions which, they argue, are heavily dependent upon, and heavily endorse, the idea that teaching and learning entails merely imparting and receiving knowledge. By dissecting these exemplifications, they identify three significant limitations. The first is the emphasis on the role of the adult within the interactions, the second relates to the omission of any opportunity to identify the children’s prior knowledge before delivering the lesson. Their third point relates to the lack of support to the TA to develop understanding of how to address children’s misconceptions and build on errors for children who do not follow the learning path outlined within the script (Gibson & Patrick, 2008). They argue that it is the content of the intervention material, and the message, that they purport to act as remedies to underachievement, which represent a low level pedagogy. They also argue that it is the lack of pedagogical dialogue which permits the acceptance of these materials and teaching methods, stating that “*while TAs are being given increased responsibility they are not being given authority to engage in serious professional dialogue about the nature of pedagogy*” (Gibson & Patrick, 2008, p. 38).

Although the training of TAs features heavily in research into the use of intervention programmes for improving academic attainment, research into TAs’ views on their training and feelings of preparedness for delivering intervention programmes were found to be “*very*

varied in quality and ranged from quite appropriate training at one end of the spectrum to none at the other end" (Houssart & Croucher, 2013, p. 437). Although the 'quite appropriate' training in this case, determined by Houssart and Croucher (2013), advocated a specific model of training, monitoring and support, they found that, from their sample, 'about a third had little or no training'.

THE REVIEWED LITERATURE AND THE AIMS OF THIS RESEARCH

Whilst a wealth of research into school grouping practices exists, and spans several decades, much of it relates to streaming or setting and focusses on practice within secondary schools. Furthermore, much of this research explores the consequences of ability grouping either on attainment in specific subjects or on children's perceptions of their competences. There is little research which explores the ordering of children within the youngest years of their schooling, or the repercussions of the practice on wider educational activity.

The arguments for ability grouping centre on a view of learning as progression through a linear set of skills, competencies and knowledge, sequentially acquired through exposure to relevant activities. Whilst the educational climate advocates ability grouping, through the specified curriculum, national strategies and OFSTED, the theoretical perspectives on learning as well as research into the consequences of grouping practices on academic achievement and personal development suggest that the practice is ineffective for meeting its aims, and has repercussions on individuals' participation in school activity. Furthermore in considering the interconnections between pedagogy and classroom practices, then the overt and covert messages about learning that are endorsed by the practice of ability grouping have repercussions for the direction that other educational practices take.

The disconnection between the reviewed literature and my experience of classroom activity determined the revised focus of the research aim - *To explore the pedagogical framework that directed ability grouping practices and consider the repercussions of these practices on individual children's school experiences and wider classroom practices.* This culminated in the specific aims for the classroom based research:

- To explore the influence of ability grouping on children's learning in a year one classroom:
 - To examine the practices which shape teaching in ability grouping,
 - To examine children's experiences in ability groups,
 - To examine the interaction of individual identity and practice in ability groups.
- To explore the influence of ability grouping on wider classroom practice and pedagogy.
- To contribute to the understanding of how classroom practice constructs children's learning and so inform pedagogic decision making.

CHAPTER 4: METHODOLOGY AND METHODS

CHAPTER INTRODUCTION

This chapter outlines the research paradigm and details the research design and methodological procedures used to obtain the data for analysis. During the data collection process the focus of the research changed, in part in response to changes to expected practice within the school. This chapter, therefore, outlines both the original intention of the research and the subsequent associated data to be collected, and then details the changes to the research design with the motives for these changes. The chapter closes with an overview of the ethical considerations encountered before, during and after the data collection.

PARADIGM

In establishing the position of this research, I am using the 'two paradigm typology' of positivist/interpretive outlined by Coe (2012). He suggests that these can be viewed as disparate fixed positions, which lead to different research approaches, or be seen as a 'philosophical stance' with which to locate, not constrain, research approaches (Coe, 2012. p.8). The positivist position favours ontological and epistemological perspectives which view *"the world and phenomena as real and exist independently of perception...it is possible to find universal laws and knowledge that are generalizable"* (Coe, 2012. p.2). The interpretive paradigm assumes a view of *"social phenomena as always perceived in a particular way: they have no 'reality' independent of perception...individual social contexts are unique; generalisation is neither desirable nor possible"* (Coe, 2012, p. 2).

These descriptions place the ontological and epistemological perspectives which support this research within the 'interpretive' paradigm. However, rather than viewing these as separate entities for constructing research perspectives, Bracken (2009) sees them as a continuum with positivism and interpretism at separate ends of the same line.

As a researcher, I may adopt differing ontological perspectives, or ways of viewing social reality. On the one hand, this might involve my adopting the belief that the world of social interactions exists independently of what I perceive it to be, it is a rational, external entity and responsive to scientific and positivist modes of inquiry...Alternatively, as researcher, I may view social reality as being co-constructed by individuals who interact and make meaning of their world in an active way, and as researcher, I can approach the search for truth in people's lived experiences through rigorous interpretation.

(Bracken, 2009, p. 2)

Bracken (2009) uses examples from research to explore the ontological and epistemological assumptions which influence classroom research into identity and acculturation in schools. From which the original research design could be positioned as positive-realist, in that the development of specific forms of speech were to be engendered and investigated. However, as the research evolved the mutuality of the epistemology and methodology led the adaptations; in that, as the research design changed, so did the epistemological position, or, indeed, as the epistemological position changed, so did the research design.

The research design is now based on the assumption that there are behaviours which are indicative of specific inherent values and beliefs. There is, from the research, the assumption that such behaviours can be interpreted to explore some of the complex processes which

construct, and emerge from practice. The research, therefore, is influenced by 'critical realism', *"an approach which enlists the full range of educational research tools to generate as broad an empirical picture of educational practices, patterns, and institutional outcomes as possible."* (Luke, 2009, cited in Bracken, 2009, p.3).

ONTOLOGY

The ontological position of this research has been determined by the theoretical framework that underpinned the research aims. In assuming a socio-cultural stance from which to attempt to explore class activity, this perspective has governed the research design in its entirety.

Waring (2012) explains the continuum which sets the parameters of the conceptions of reality which constitute the ontological positions from 'realism' to 'constructivism'.

In realism there is a singular objective reality that exists independently of individuals perception of it, at the other end of the continuum, under constructivism reality is neither objective nor singular, but multiple realities are constructed by individuals

(Arthur et al., 2012, p. 16)

However, beyond the continuum of ontological positions, exemplified by Waring (2012) from realism at one end, to constructivism at the other, Packer and Goicoechea (2000) argue that a socio-cultural ontology is distinct from alternative forms of constructivism through conceptions of the distributed nature of cognition. They assert that socio-cultural conceptions share similarities with that of a constructivist perspective, in that each see multiple conceptual realities constructed by individuals, however, ontological assumptions are distinct

in socio-cultural theory from that of the constructivists through their differing conceptions of the independence and interdependence of the individual and their social environment. Therefore, although constructivism, in part represents the ontological position of this research, in that it represents a connection, 'duality' between 'person' and 'world'. It could also be argued that this does not sufficiently explicate the socio-cultural view of the interconnection between individual and social as *"stretched over, not divided among—mind, body, activity and culturally organized settings"* (Packer & Goicoechea, 2000, p. 229).

EPISTEMOLOGY

Waring (2012) explains epistemology as *"the systematic consideration of knowing, when knowledge is valid, what counts as truth"* and follows a similar continuum from 'positivism to interpretism' (Waring, 2012, p. 16). Again, it is consideration of the socio-cultural theoretical perspective that frames this research and determines the epistemological position. As discussed previously, a socio-cultural view of learning *"entails both personal and social transformation...Whether one attaches the label "learning" to the part or to the whole, acquiring knowledge and expertise always entails participation in relationship and community and transformation both of the person and of the social world."* (Packer & Goicoechea, 2000, p. 239). This is therefore in contrast to the positivist view of being able *"to achieve direct knowledge of the world by direct observation"* (Waring, 2012, p. 16) and congruent with the interpretive perspective which *"does not see direct knowledge as possible: it is the accounts and observations of the world that provide indirect indications of phenomena, and thus knowledge is developed through a process of interpretation"* (Waring, 2012, p. 16).

RESEARCH DESIGN

ETHNOGRAPHY

The exploratory nature of the research aims, albeit with some degree of focus, and the practicality of my position within the situation being researched, suggested that an ethnographic approach to the research would be appropriate as *"the ethnographic gaze captures the reality as experienced by the participants and recorded by the researcher at a particular historical moment."* (Bhatti, 2012, p. 80). Furthermore Green et al. (2012) propose that, contrary to a view of ethnography as solely a research method, they argue that it is an *epistemologic* framework based on 'four principles of operation' and that these principles constitute the belief that 'world views' are entrenched within cultural activity, and therefore cannot be interpreted without entrenchment within that culture, which attends specifically to epistemological conceptions of knowledge and knowing reflected within socio-cultural theories (Green et al., 2012, p. 314). Be it an epistemological frame or a method, this research adopts an ethnographic approach to attempt to 'study a situation from within' (Thomas, 2009).

Both the benefits and the limitations of this approach are related to my position within the setting being explored. The benefits of ethnography can be seen as grounded in the access to the assumptions that underpin activity by immersion within the community. Subsequently, as an 'insider', I potentially have access to information through immersion within the cultural setting to be researched. However, my role within the classroom is not neutral, myself as the teacher and myself as an individual, compose elements of the practice under scrutiny, and consequently influence my perceptions of it. Furthermore, my role within the setting

potentially also limits access to some information, in that my role as a teacher positions me outside of some groups within the setting (Hammersley & Atkinson, 2007).

Breen (2007) outlines some of these characteristic advantages and disadvantages to insider research, stating that whilst insider researchers have greater familiarity with a group and its culture, this can also lead to researchers losing objectivity. Similarly, whilst affiliation with a particular group can lead to greater understanding of its associated membership, this can also create assumptions related to similarities between a researcher and other community members. In addition, whilst an insider may possess the capacity to 'act naturally' within a specific setting, they also encounter greater procedural complexities to balancing different roles (Breen, 2007).

However, Dwyer (2009) argues that the insider or outsider researcher labels fail to attend to the complexities of individuals' identities and affiliations.

As qualitative researchers we have an appreciation for the fluidity and multi-layered complexity of human experience. Holding membership in a group does not denote complete sameness within that group. Likewise, not being a member of a group does not denote complete difference. It seems paradoxical, then, that we would endorse binary alternatives that unduly narrow the range of understanding and experience.

(Dwyer, 2009, p. 60)

In contrast to the 'insider-outsider' status, Dwyer (2009) suggests that qualitative researchers 'occupy the space between', in that neither differences nor similarities are total. Identification with particular groups is dependent upon the researcher's personal history, experiences, identities and memberships, in relation to their participant population and the topic under

investigation. The familiarities and variances occupy, unique, relational positions and furthermore, these positions may alter as the qualitative research process, and community relationships develop.

Kerstetter (2012) also considered the impact of researchers' identities on the research process. Focussing on 'community-based research', she explored the influence of researchers' identities on the objective of disbanding traditional boundaries between 'researcher' and 'subject'. Highlighting the uniqueness of the individual relationships between researchers, participants and contexts, Kerstetter (2012) concluded that diversity between researchers and community members was not problematic to the research process, if researchers maintained openness and reflectivity about their own identities and relation to their participants. In so doing, she argues that they can maintain insider understanding, and outsider objectivity (Kerstetter, 2012).

From these perspectives, my position within the community being explored is neither insider nor outsider. Firstly, the community itself is not comprised of single sets of similar individuals, the community is made up of individuals with different roles and experiences to mine. The children, teaching assistants and school leaders all participate in activities with different roles, responsibilities and varying levels of authority and autonomy. In addition, each of the individuals have their own histories and identities. Therefore, being immersed within the community, or being a member of a group within a community, does not, in itself, provide access to the perspectives of its members. Furthermore, due to the duration of the research, my experiences and relationships were not static. My familiarity with procedures, processes and individuals evolved over time and therefore so too did my position upon the outsider-insider continuum.

CASE STUDY

The decision to employ a case study approach was based upon the potential for a breadth of data to account for different aspects of class experience. As outlined by Mitchell, (2011) *"a case study...provides the optimum conditions for the acquisition of those illuminating insights which make formerly opaque connections suddenly pellucid"* (Mitchell, 2011, p. 183). The case to be studied was determined by that which is practical, i.e. the class that I taught, in the school that I worked in. To explore the children's experiences and activity from a socio-cultural perspective, the data collected for the duration of the research comprised of three main elements, 'the institution', 'the individuals' and 'the interactions'. Each of these elements was designed to provide as full an account as possible of differing levels of social activity to be viewed separately, as a whole, and to explore the interconnections between each aspect.

According to Gomm et al. (2011) criticisms of the case study approach have been, most notably, related to the issue of 'generalizability' (Gomm et al., 2011). However, with reference to the issues of generalizability and transferability in case study research, Stake (2011) argues that traditional notions of the importance of these for establishing research validity can be reconceptualised, and presents the idea of 'naturalistic generalization' to establish similarities between cases through detailed description which enables the 'vicarious experience' and intuitive generalisation provided by case study research.

The demands for typicality and representativeness yield to needs for assurance that the target case is properly described. As readers recognise essential similarities to cases of interest to them, they establish the basis for naturalistic generalisation.

(Stake, 2011, p. 23)

Similarly Schofield (2007) with reference to qualitative research generally, but applicable to case study specifically, identifies transparency and 'rich description' as a means of establishing any relevance of one piece of research and an alternative context.

Redefining the concept [of generalizability] in a way that is useful and meaningful for those engaged in qualitative work...generalizability is best thought of as a matter of the 'fit' between the situation studied and others to which one might be interested in applying the concepts and conclusions of that study. This conceptualisation makes thick descriptions crucial, since without them one does not have the information necessary for an informed judgment about the issue of fit.

(Schofield, 2007, p.199)

It is this 'thick description', and its potential for establishing similarities and 'fit' between cases that offers some potential for the case explored within this research, to inform wider practice and pedagogical understanding, in that some aspects may 'illuminate opaque connections' (Mitchell, 2011) between individual and institutional interactions within this case which may be applicable to different groups, classes or contexts.

Furthermore Donmoyer (2011) offers an additional alternative to the traditional focus on generalizability and identifies three advantages of the 'vicarious experience' offered by case studies: 'accessibility' in that case study research offers entrance to settings and situations that are otherwise beyond direct experience; 'seeing through the researcher's eyes', in that case study discussion offers a researcher's unique perspective from a cultural position that may be significantly different from that of the reader; 'decreased defensiveness', in that narratives about a specific context or practice, relevant to an individual's experience, offers

potential for a greater degree of dispassionate reflection than interrogation of direct experience of the individual's own practice or context (Donmoyer, 2011, p. 61–66).

There is no expectation of establishing, or constructing any theory from these observations (Arthur et al. 2012). The primary focus is on exposing and exploring the specific processes that interact to develop school practices, sculpt activity and influence the participants' experiences. It is the desire for illuminating and exploring different levels of social interaction to inform my own understanding which is the primary focus of the research, however the extent to which this will provide insight which is applicable to practice in alternative situations is dependent upon the similarities and differences between the two contexts. Therefore the determination to obtain as full a picture as possible, is not only for the purpose of exploring aspects of the context, practices and interactions fully, but also for enabling as rich and clear a description as possible to meet the research aim of contributing to wider understanding and inform pedagogic decision making.

RESEARCH PROGRESSION AND ADAPTATION TO THE RESEARCH FOCUS AND DESIGN.

The data were obtained over one academic year. However, as stated within the introduction, during the year the focus of the research and the data being collected changed. The original focus of the research was to include structured observations through the use of video recording equipment to record the children engaged in collaborative activity at specific points over the course of the research. This may appear to be in contrast to the stated research position, in that structured observation "*makes assumptions that the social world is viewable through a prism that enables a break down of social activity into quantifiable elements*"

(Thomas, 2011, p. 183). However, these observations were intended to complement other forms of data, and add to the 'thick description' to provide an additional dimension by providing a 'snapshot' picture of the children's interactions over time, to provide a view of the children's progression within their interactions and the consistency, or inconsistency of the children's experiences of the group activity.

Table 1 - Intended research progression

Initial timetable for research progression –	
Term 1 - September /October	<ul style="list-style-type: none"> - Identify focus participants, from completed consent forms. - Begin to acquire and collate policy documents and school statistical information. - Begin to take notes and compile diary of class events and interactions. - Undertake video observation of the children engaged in task for the development of group skills. - Undertake video observation of the children engaged in collaborative task. - Undertake video observation of the children engaged in 'free-play' activities. - Transcribe observations.
Term 2 - November/ December	<ul style="list-style-type: none"> - Continue to take notes and compile diary of class events and interactions of focus participants. - Undertake video observation of the children engaged in task for the development of group skills. - Undertake video observation of the children engaged in collaborative task. - Undertake video observation of the children engaged in 'free-play' activities. - Collate school assessment data for focus participants. - Transcribe observations. - Analyse key words used from transcribed observations. - Compare use of key words in transcribed observations.
Term 3 - January/ February	<ul style="list-style-type: none"> - Interview parents/carers - Continue to review the data and explore the suitability of the intended analysis. - Undertake interview/discussions with parents/carers of focus participants. - Continue to take notes and compile diary of class events and interactions of focus participants. - Undertake video observation of the children engaged in task for the development of group skills.

	<ul style="list-style-type: none"> - Undertake video observation of the children engaged in collaborative task. - Undertake video observation of the children engaged in 'free-play' activities. - Transcribe observations. - Analyse key words used from transcribed observations. - Compare use of key words in transcribed observations.
Term 4 - February/ March	<ul style="list-style-type: none"> - Collate school assessment data for focus participants. - Continue to take notes and compile diary of class events and interactions of focus participants. - Undertake video observation of the children engaged in task for the development of group skills. - Undertake video observation of the children engaged in collaborative task. - Undertake video observation of the children engaged in 'free-play' activities. - Transcribe observations. - Analyse key words used from transcribed observations.
Term 5 - April/May	<ul style="list-style-type: none"> - Continue to take notes and compile diary of class events and interactions of focus participants. - Undertake video observation of the children engaged in task for the development of group skills. - Undertake video observation of the children engaged in collaborative task. - Undertake video observation of the children engaged in 'free-play' activities. - Transcribe observations. - Analyse key words used from transcribed observations.
Term 6 - June/July	<ul style="list-style-type: none"> - Collate school assessment data for focus participants. - Continue to take notes and compile diary of class events and interactions of focus participants. - Undertake video observation of the children engaged in task for the development of group skills. - Undertake video observation of the children engaged in collaborative task. - Undertake video observation of the children engaged in 'free-play' activities. - Transcribe observations. - Analyse the data, in relation to the research aims. - Analyse key words used from transcribed observations.

I initially intended to apply a socio-cultural discourse analysis to the transcripts of the recorded activity from the structured observations to explore how, or if, the children's use of language developed within their independent group activities. The model for this was to be

provided by Littleton (2005), through the use of 'key words in context' to explore any development of the 'exploratory talk' within the children's interactions, in response to the class activity, over time (Littleton et al., 2005). However, after the initial attempts at this it became apparent that it would not be suitable for this research. The interaction between the children within each activity was influenced by the task, without specific parity between the different activities, comparison between them and the type of dialogue that they inspired was not, therefore, fully indicative of the children's development or capability. Furthermore, the investigation and comparison of the children's use of exploratory language as indicative of individual capability or development did not sufficiently expose the interconnection between the children, for example, the majority of statements made by one child, throughout the observed activities (Appendix I-VII), were direct responses to questions posed to her by another. Similarly, some of the exploratory uses of language seen by one child were repetitions of statements made by others. In addition to the nature of the task's impact upon these quantitative comparisons, the subjectivity in determining the exploratory language use as well as subjectivity in determining statements to be single, or multiple, meant that any comparison or apparent trends were overly speculative, reducing the validity of any comparisons between the children or between the observations. (Transcripts and analysis included in Appendix I-VII).

Although, the initial analysis of these structured observations highlighted some limitations of this process for meeting the research aims, I pursued these structured observations, however, the purpose of these observations changed over the course of the research. Initially intended to provide an overview of the children's developing skills with particular dialogic forms, I pursued the observations in anticipation of using them as an example of mixed ability interaction, to contrast to the children's interactions within ability groups, following a change

to practice as a consequence of a change of leadership at the school. However, this too proved inadequate, as the focus of these structured observations prioritised the interaction and collaboration, and therefore they did not represent a 'naturalistic' group dynamic for comparison with the activity within ability groups.

Aside from the analysis of the structured observations diverting the focus of the research, the changes were also the result of changes to classroom practices over the course of the data gathering process. As a consequence of a change of leadership at the school at the start of term three (January, in a six term year), the structure of the Early Years Foundation Stage (EYFS) and Key Stage One (KS1) classes within my school had to adapt to conform to a more 'formulaic' approach to teaching and learning, whereby the KS1 children were only grouped by 'ability', based on school assessments, and only given focussed, adult directed tasks to complete towards their individual attainment targets in each of the specific curriculum areas. This added an additional dimension to the focus of my research, altering the focus from exploring interactions within mixed ability collaborative group activity, to exploring interactions within ability groups.

Whilst maintaining an interest in the repercussions of classroom practice for enabling or disabling learning, the initial attempts at analysing some of the data and the implementation of rigid ability grouping impacted upon the research design; the focus on the group-work therefore altered to explore the similarities and differences between children's experiences in different ability groups. The reworking of the research aims involved shifting the focus from investigating collaboration in mixed ability groups, to the exploration of the children's participation in groups based on the school's interpretation of their ability. The revision of the research aims eventually culminated in the aims, as stated:

- To explore the influence of ability grouping on children's learning in a year one classroom,
 - To examine the practices which shape teaching in ability grouping,
 - To examine children's experiences in ability groups,
 - To examine the interaction of individual identity and practice in ability groups,
- To explore the influence of ability grouping on wider classroom practice and pedagogy,
- To contribute to the understanding of how classroom practice constructs children's learning and so inform pedagogic decision making.

Whilst these changes required a shift in emphasis from collaborative, mixed ability grouping, to ability based group activity, the fundamental aspects of the research design remained unchanged. Both the original and ultimate research aims centred on exploring classroom practice and individuals' activity with continuous data collection intended to form an ethnographic case study which explores data representing the cultural context, the individuals within it and their interactions during class activities.

Whilst the initial stages of the research followed the planned research design, as previously outlined, from term three (January) the focus of the research altered, consequently, so too did the data gathering. At this point, the data collection initially prioritised the field notes recorded during day-to-day activity, I then explored the themes emerging from the observed activity and considered them in relation to the socio-cultural theoretical framework. As points of interest arose, the focus for observing the activity was refined. In a manner which Hammersley (2007) refers to as a 'funnel structure', I initially focused on broad comparisons

between the observed interactions from the focus children, as themes and typicalities emerged, greater emphasis was given to exemplifying, and further scrutinising, the apparent themes. This constant exploration, revision and analysis did not follow a precise, pre-planned, systematic approach to data gathering. Therefore, the following table shows a retrospective account of the research activity.

Table 2 – progression of research activity.

Term 3 - January/ February	<ul style="list-style-type: none"> - Undertook video observation of the children engaged in collaborative task. - Allocated time for observing class activity and recording notes. - Recorded notes during day-to-day class activity. - Scrutinised notes and contemplated the emerging themes in contrasting the similarities and differences between the experiences of children within each of the ability groups. - Collated school assessment data for the focus children - Videoed class activity in response to analysis of field notes.
Term 4 - February/ March	<ul style="list-style-type: none"> - Undertook video observation of the children engaged in a collaborative task. - Analysed the transcripts of recorded observations. - Compared activity in ability groups to activity within the mixed ability groupings. - Collated school assessment data for the focus children - Videoed class activity in response to analysis of field notes.
Term 5 – April /May	<ul style="list-style-type: none"> - Undertook video observation of the children engaged in collaborative task. - Observed activity of children engaged in one literacy lesson, to compare their experiences. - Collated school assessment data for the focus children - Undertook observation of intervention group-work - Undertook observations of the children's afternoon class activity. - Videoed intervention group-work
Term 6 – June /July	<ul style="list-style-type: none"> - Undertook video observation of the children engaged in collaborative task. - Collated school assessment data for the focus children - Transcribed significant aspects of video recorded activity. - Held discussions with each of the focus children.

DATA COLLECTION METHODS

The data collection methods evolved from research aims and the theoretical perspective which underpins the research. The interconnection between the different curricula, and different levels of authority over individual class practices, led to a desire to acquire a holistic view of class activity, to explore the contextual influences upon children's activity and consider the repercussions of these on children's participation and learning.

In order to meet the research aim – *'To explore the influence of ability grouping on children's learning in a year one classroom'*, the emphasis for the data collection was to obtain information which represented the context, the focus children and the class activity. The three sub-aims directed the data to be obtained further. The first – *'To examine the practices which shape teaching in ability grouping'*, required that I obtain information that represented the school and class contexts as well as the wider educational climate. This was primarily obtained through documentation and observation. The second sub-aim – *'To examine children's experiences in ability groups'*, required that I obtain data representing the lived experience of the children within class activity. This was primarily obtained through observation, sometimes with field notes and sometimes with video recording equipment, as well as through semi-structured interviews with the focus children's parents and discussions with the children. The focus for the data collection was to obtain data which enabled me to construct a depiction of the context and the influences upon classroom practices, as well as to construct a depiction of the histories and interactions of the children within the context. It was intended that this would then allow me to use wider theoretical and empirical research to consider the connections between the two and meet the third sub-aim – *'To examine the interaction of individual identity and practice in ability groups'*. Given the reciprocity of

pedagogical activity and pedagogical perspectives, outlined by Porath and Bruner (2000), the further aim – *‘To explore the influence of ability grouping on wider classroom practice and pedagogy’*, required data which represented both the outward and inward influences of practice, to explore how the practice of ability grouping impacted upon other classroom activity and philosophical perspectives on the teaching and learning process. Again, the data for this was primarily obtained through observations of class activity and wider community discussions.

The emphasis for the data collection, was to establish, as far as possible, a broad view of class activity, acknowledging the multi-layered influences on individual classroom practice. As an ethnographic case study the approach to data gathering was based upon the desire to obtain a full, or as full as possible, account of the different cultural, contextual aspects and the individuals sculpting the case to be explored. This appeared to serve both the exploratory and descriptive aspects of the research aims. The data obtained consisted of documentation, semi-structured interviews, field notes, a research diary, participant observation and non-participant observations using video recording equipment (Cohen et al., 2007).

DOCUMENTATION

McCulloch (2012) describes a document as *“a record of an event or process”*. This documentary information was designed to ‘frame’ the case being studied, and contribute to the aim of examining the influences which contribute to ability grouping. As pointed out by McCulloch *“it is helpful to combine different kinds of documents to develop a fuller and more comprehensive account of specific themes”* (McCulloch, 2012, p. 214). Given the significance of context to the research aims, the documentation was determined from that which would

provide sufficient institutional contextual information. This included data, already acquired and collated by the school, to provide demographical information, i.e. the number of children on roll, the number of children in receipt of free school meals, the number of children learning English as an additional language (EAL) and the number of children registered as having special educational needs (SEN), in relation to national averages. This element of the data also included some statistical information on the school's recent assessment results and trends, in both Key Stage One and Key Stage Two. In addition, this also incorporated other documents which provided background data on the context for the class activity, including the school's teaching and learning policy and national Literacy and Numeracy policy documents, OFSTED reports and indicators of the socio-economic status of the wider area in which the school is geographically situated. These elements of the data were intended to provide an account of the context for the learning to explore the wider cultural constructs influencing the class activities to include the policies, procedures and priorities which impact upon the classroom environment, practices and activity. (Documents omitted from Appendices to preserve school's anonymity).

Much of the data collected from documents was used to create a description of the context and the participants. Collating information gleaned from documents and discussions was intended to create a frame for depicting the class activity and interactions, part of which included 'National Statistics Socio-economic Classification' (NS-SEC) 'Standard Occupational Classification 2010' (SOC2010) documents based on the occupation of the focus children's families using the 'NS-SEC coding tool'. Although the information to derive the categories was not obtained using the formalised questions outlined within the 'SOC2010' guidance, the information required to classify the occupations was derived from information obtained within general discussion and the structured interviews, I have therefore only included the

'simplified NS-SEC' codes. These were based on a single occupation from, what I determined to be, the 'Household reference person' (HRP). This decision was determined from the guidance given by the Office for National Statistics (ONS) (Office For National Statistics, 2010). A further discussion on the utility of this classification is included with the data.

INTERVIEWS

These consisted of 'semi-structured' interviews (Mears, 2012), with the focus participant's parents or carers, at the start of the academic year. These were informally organised with the relevant parents and carers after the initial consents and information sharing about the research focus were discussed. The semi-structured interviews consisted of open ended questions (Appendix VIII), to initiate discussion points, with the intention of obtaining a picture of the children's histories and experiences outside of school to obtain a fuller view of the children's stories, relationships, interests and personalities. Although similar to discussions which take place as part of an ongoing dialogue between teacher and parent, these interviews with the focus children's parents and carers were specifically arranged as part of the research process and only took place with the relevant parents. The information obtained through these discussions contributed to the developing 'pictures' of the children, however the information provided was a subjective account, from the carers, of the children's histories and interests and based solely on information that they felt willing to share, and their perception of the 'freedom' that they had to be honest. These interviews were, essentially, taking place with their child's class teacher, at a time before we had really built any relationship, subsequently the responses and the depiction that emerged from these discussions were only assumed to be accurate representations.

OBSERVATION

The greatest quantity of data was collected from the observations of children during normal class activities. These were primarily recorded with the use of 'field notes' and consisted of both 'recollections' from daily activity in which the notes were written after an activity (Open University, 2003) as well as notes taken from 'spontaneous' observation of lived experience. The notes on the observed activity within the classroom constituted a significant portion of the data for the research. The notes also consisted of brief transcripts of recorded activity, with annotations of points of interest, to guide the research direction and areas for further exploration. (Example page Appendix IX). These notes contributed to the compilation of a daily diary of activity, which recorded comments, discussions and behaviour throughout the research period. However, there were specific limitations to this, in that what is considered 'noteworthy' changed as the research progressed, as the focus for the investigation shifted, or was refined. In addition, this element of the data, although substantial, only represented a highly subjective account of activity that I was present for and, therefore, was, at some level, influencing (Open University, 2003).

This aspect of the data collection also incorporated activity recorded using handheld video recording devices. These structured observations occurred each term, recording the focus children engaged in a collaborative group task. Structured, videoed recording of class activity also occurred as a consequence of analysing my field notes. As significant features of class activity began to emerge, the limitations of the use of field notes for adequately recording specific, intricate, aspects of class activity became apparent. Therefore I used my notes to identify broad aspects of activity that appeared significant, then scrutinised the activity further by video recording events.

This element of the data also included notes from comments made by other staff members, as well as comments made by the children. It was anticipated that the information collected through these procedures would provide a large quantity of data for exploration into the connections between the cultural context, the activities and the individuals' learning within it, to form a case study of the learning and interactions between the individuals within one classroom setting.

ANALYTIC FRAMEWORK

In order to meet the research aims, the intention was to apply a socio-cultural lens to the observed activity by exploring the activity within its social and cultural context. The framework for this came directly from the works identified within the theoretical review, to explore individual activity at different levels, maintaining them as an inseparable whole. The broadest focus for the data collection was to obtain data for interrogating the 'taken for granted' aspects of everyday activity by scrutinising it within an alternative theoretical framework.

The research aims were intended to culminate in a description of lived experience and scrutiny of interaction between different levels of social and cultural constructs. As such, the analysis of the data primarily involved connecting different aspects of the data and considering them in relation to the theoretical framework. This did not follow a specific systematic pattern. Although not using specific coding formats, aspects of the analysis were akin to a 'grounded theory' approach as the data collection and analysis ran concurrently (Connelly, 2013). By considering the data, taking a broad view of the policies and practices

that influenced classroom activity, the initial stages of the analysis involved generating themes that appeared to emerge. Some of these themes were based on intuitive beliefs about aspects of class activity that required further scrutiny. By exploring my classroom notes and observations of individual children, group interactions and adult activity, I honed in on specific aspects of class activity further. This was sometimes through further note taking, sometimes from identifying specific aspects of class activity for recording during lessons, and sometimes from identifying further sources of data. At each stage of the analysis I referred to further literature and empirical research to explore existing understanding of the specific themes and inform my interpretation of observed activity.

In addition to the interviews and documentation, initially the primary source of data was the notes that I took during class activity. As the 'funnel' structure to the data gathering increasingly focused attention onto specific variances, I scrutinised these differences, and gave particular attention to the aspects of class activity which appeared to show differences between the children's experiences as a consequence of their grouping. The broad themes were obtained by analysis of my classroom notes to identify 'typical' differences between the children's experiences within different ability groups. The broad initial themes that emerged from scrutinising my classroom observations and notes related to the physical positioning of the children, the differences in interactional opportunities between the groups, the differences between adult interactions with members of different groups, and the different experiences of children involved in intervention activities compared to other members of the class. Once these specific apparent themes emerged, I undertook video recordings of specific activity and transcribed the recorded discussions, to analyse it further and consider it in relation to data obtained from the other sources. The examples contained within the discussion chapter represent the final stage of this process.

ETHICAL CONSIDERATIONS

The research was carried out with full regard for the 'Ethical Guidelines for Educational research' (BERA, 2011). As ethnographic research, a dimension to the ethical considerations during the entire research process resulted from the requirement to be true to my observed experiences, whilst not intentionally causing harm to any participant. Malin (2003) argues that ethnographic research in classrooms involves unique ethical dilemmas due to the potential for conflicts between the interests of students and teachers. Arguing that one of the main values of ethnography is its capacity for capturing classroom life, which is particularly beneficial for exploring equity in schools, she points out that research which exposes inequity creates potential for conflicts between the interests of the children, for whom exploring inequality could be beneficial, and the interests of the teacher, for whom illuminating inadvertent inequity in practice may cause harm to self-esteem (Malin, 2003). I encountered the same dilemma within my research, although the conflicts were primarily between the interests of the children, or my perception of, and the interests of the class support staff. As an element of my research explored differences in the interactional performances of the class teaching assistants, there was a potential for my research to appear accusatory, which was never my intention. Regard for this was maintained during the observation aspects of the data gathering as well as during the analysis and research writing process. It is hoped that the research design itself mitigates the potential misconception of individual culpability, by positioning the observed activity within the wider constructs influencing it. Further ethical considerations were encountered at different stages of the research process.

BEFORE THE DATA GATHERING

Prior to undertaking the research, I obtained consent from the school's head teacher both through discussion and in writing, with full disclosure of the research aims and procedures, at the time. Once initial consent from the school was obtained, I approached the parents and carers of the children within the class that I was due to have the following year. Discussion about participation in the research was initially, primarily through face-to-face discussion, to enable me to give an account of the research and what 'participation' would entail, this also allowed parents and carers opportunities to ask specific questions. After initial discussions, I sent a written account of the research process and asked the parents to give consent if they were happy for their children to be included (Appendix X). I invited parents to a meeting at the school to give further specific information and made myself available for parents to ask questions. I also had discussions with the TAs within the class and gave them the opportunity to ask any questions before choosing whether or not they were happy to be included in any description of activity and discussion.

Parents and TAs were informed of their right to change their mind and withdraw their consent. However, I was conscious of my position as teacher within the school, and the potential impact of the imbalance of this position in relation to the other members of staff, parents, and children's decision to opt-in to the research. I believe that this consciousness was at the fore in all aspects of the discussions and written requests for consent, however I can't ensure that people weren't influenced by my role as teacher, but I did not encounter any situation or discussion which led me to believe that any of the focus children, their families or any member of staff were not happy about participating, or wished to withdraw consent once given.

DURING THE DATA GATHERING

In addition to obtaining consent from the original head teacher at the school, when the change of leadership occurred I approached the new head teacher to explain the research aims, design and intentions, to request further consent to continue. At this point the head teacher made me aware of the impending changes to the school's teaching and learning policy, and we discussed the implications of this for my research. As the opportunity to continue to employ mixed ability collaborative activities as part of the day-to-day activities within the class was restricted by the changes to policy, I adapted my research focus. I then had further discussions with the new head teacher to obtain consent to continue, which was given on condition of assurances that no part of the final thesis would contain information from which the school could be identified. In order to ensure that this condition was met, I have excluded any information which would have overtly or inadvertently identified the school, including information on the year in which the research took place, so that my employment at the time of undertaking the research could not identify the school.

Part of the data gathered was from video recordings of the children engaged in class. Prior to undertaking the video observations, the children were given an opportunity to record themselves and explore the camera before deciding whether they were happy to be filmed. The use of recording equipment was included in the outline of the research process, given to parents prior to consent being given. The use of digital recording equipment, is also used as part of class activity outside of the research, so the children's experiences of being recorded and recording each other, were not unfamiliar to them. The children's familiarity with the recording process had a specific advantage for attempting to minimise any influence of the *reactivity effect*, in which the presence of the researcher and research equipment alter the

'natural' behaviour of the participants (Open University, 2003). For this reason, it was decided not to make any explicit distinction between recordings made for *class use* and recordings made for *research use*, as this may have mitigated the advantage of familiarity and impacted upon the children's behaviour during observed activities. The children's familiarity with the use of recording equipment for recording, watching and discussing their activities provided both advantages and disadvantages for evaluating the extent to which the children's agreement could be considered 'informed'. In one sense it could be argued that the children's familiarity with the process of recording and exploring their interactions during normal class activities contributed to the extent to which their consent could be considered *informed* in that they had additional understanding of the processes that they were agreeing to, when agreeing to be filmed. However, the exact use of their recordings beyond the classroom were not specifically explained to the children in detail. It could therefore also be argued that the children's familiarity with recording within class prevented their consent being considered as informed, as they had no opportunity to develop an understanding of how the recordings were being used differently for research purposes and therefore they could not subsequently *agree* to the recordings being used differently. An additional dimension to evaluating the extent to which the children's consent could have been considered *informed* centres on the different discussions about the research which took place between parents and children. Although the exact processes of the research were explained in full to the parents before they gave consent, I have no explicit knowledge of the discussions which took place between the parents and their children, therefore the children participating within the research may well have had differing understandings about the purposes of the class recordings. Throughout the research process I was conscious of the children's reactions to the filming and recording of their activities. Had any child exhibited signs of discomfort, or explicitly not agreed to being recorded, then I would have adapted accordingly.

As a consequence of the changes to the research design, during the data gathering, I spoke to the parents of the focus children to ensure that they were still happy with the consents given. Although the consents were obtained for observing and recording all aspects of the children's class activity and therefore the changes to the research design did not alter the consents given, I informed the parents of the focus children, through informal conversation, of the adapted purpose of the research. I outlined the main shifts in emphasis from a focus on collaborative group-work to a focus ability based grouping, as my initial explanation of the research purpose was no longer representative of the research as it developed.

DAY-TO-DAY OBSERVATIONS

As much of the data gathering was concerned with noting observations of interaction during usual class activities, this posed challenges in relation to balancing my professional role with my role as researcher. There were occasions when activity that may have been relevant for the purposes of my research was unobtainable as to do so would have compromised my commitment to my professional role. This was mainly related to individual interactions for which adequate recording would have removed my focus of attention from the groups of children that I was tasked to be working with. Throughout the data gathering process I maintained conscious regard for the extent to which my professional role as class teacher was being influenced, and possibly compromised, by my pursuit of relevant data for the research, where any conflict occurred, my professional role and commitment to my class was prioritised.

COMMENTS FROM STAFF

As the aspects of observed activity which were taken as most relevant and were to become the focus emerged, it became apparent that wider consent from other members of the school staff would also be necessary. The initial focus on conceptions of ability from wider community members occurred as a consequence of 'over hearing' comments within the school. These were comments made by staff members who had not originally been included in my requests for consent and participation. I therefore approached individual staff members, referring to their comments, and requested permission to include some of their comments within the research. I also had further informal discussions with them to enquire further about their understanding of ability, ability grouping and the intervention groups. Each was made aware of the comments that I wanted to include and, with assurances that there would be no repercussions to the views that they expressed, and no means of identifying them as the contributor, all gave permission for their comments to be included.

WRITING THE RESEARCH

During the writing of the research I have been cautious not to include dates, real names or recognisable features of the school, staff, class or children. This is particularly relevant for one of the participants of the research who was a 'looked after child' where there were potential safeguarding implications for revealing any identifying features of his history, or current whereabouts. Although the children's histories play a part in the analysis, for this reason information that may identify the children was not included. Following the revised conditions of the research, as a consequence to the change of leadership at the school, I have also excluded documents which may identify the school and community, even if anonymised. In addition, in order to preserve anonymity for the children and their families, I have only included the major group occupation within the description of socio-economic indicators.

CHAPTER 5: CONTEXT FOR THE RESEARCH

CHAPTER INTRODUCTION

This chapter outlines specific information about the context and the focus children, obtained from the different sources of data, outlining the specific practices at the school and giving some of the background information about the focus children.

CONTEXT INFORMATION

THE SCHOOL

The school is a single form entry Primary school, according to information from OFSTED (2011) the children at the school are predominantly 'White British', with a much lower proportion of children speaking English as an Additional Language, than seen in similar schools, nationally. The proportion of pupils known to be eligible for free school meals is above average. The school has a higher proportion of children identified as having Special Education Needs compared to other similar sized schools, the majority of whom experience speech, language and communication delay. The school has a high proportion of children who join or leave the school at different points of their schooling, compared to other schools (OFSTED, 2011). According to the Office for National Statistics' (ONS) online 'Key Figures for Work Deprivation', the school is positioned in an area (Lower Layer Super Output Area) with 25% of '*all people of working age claiming a key benefit*'. (Office For National Statistics, 2011).

At the start of the school year, the school had ten teachers and eighteen teaching assistants, some of whom were full time and some of whom were sharing roles. At the start of the year

the senior leadership team (SLT) consisted of an acting head of school, and an acting deputy head teacher, following the departure of the executive head teacher at the end of the previous academic year. The teaching staff had been relatively stable, with eight of the ten teachers having been at the school for five years or more, however this changed as the school experienced several changes over the course of the year. The acting head of school was temporarily absent at the end of the first term (October), which extended for a further period, before she eventually left the school. At the end of term two (December), the acting deputy head teacher was due to leave her role and take maternity leave. Anticipating that the school would be left with no SLT, a head teacher was appointed, temporarily, from term three (January), who then remained at the school for the rest of the academic year. During the period from January to July, a further three teachers left the school, and were replaced by supply teachers, one of whom remained at the school until the end of the year, whereas two of the supply teachers left and were replaced by various short term supply teachers, and later replaced by alternative, long term, supply teachers. In addition, four teaching assistants left their roles, two were replaced by new members of staff and two were replaced by extending the roles of existing members of staff.

THE CLASS

The class was a Year One class, with children aged five and six years old. At the start of Year One (September) four new children joined the class that had not previously been at the school, making a class of 29 children, originally 13 boys and 16 girls. Three children left the class during the year, leaving a class of 26, 12 boys and 14 girls. The classroom had an outside learning space accessible through a door in the classroom, there was a reading area, writing area, role-play area, investigation area and creative area, within the classroom, as well as seven tables and 30 chairs for focussed, and whole class, activities. The children had specific

times during the day when they had free access to each of the different areas, and specific times of the day when they were required to engage with adult directed tasks. The balance between the times for independent activity and adult directed activity changed throughout the year, becoming increasingly focussed on adult directed learning after the first term. In addition, the balance between free-choice and structured, adult-led activities, was not evenly spread between the children, with some children having more free-choice activities than others.

THE STAFF

Within the Year One class there was a full time class teacher, a full-time TA (*Mary*) and a part-time TA (*Lucy*), who worked only mornings. As the class teacher, I had experience of working in other schools within EYFS and KS1 classes and held a Bachelors degree in Primary Education and a Masters degree in Education. The TAs were both parents of children at the school, although not in the class. Neither TA had previously worked in any other school setting, however, Lucy had previously worked at this school in the capacity of a cleaner before starting as a TA in the September. Both TAs stated that their motivation to work in the school had stemmed from their desire to balance work and family, working only during school hours and having school holidays off. Lucy had finished her own education, at the age of 16, with 3 GCSEs. Mary had previously worked as a hairdresser and had completed her training for this through a college. Neither had completed any formal training for their roles as TAs and they had not been given any school based induction or training. Their role was to work under the direction of the class teacher and the management of their performance was to be the responsibility of the Foundation Stage and Key Stage One coordinator, although for the majority of the year the school did not have a member of staff in this post.

THE FOCUS CHILDREN

Six children were chosen, from the Year One class, to become the focus for exploring their experiences of class interaction and form the participants within the structured observations. The focus children were Christopher, David, Lilly, Arthur, Penny and Bobby. These children were selected from those whose parents had given consent, with some consideration of the range of previous assessment scores from their Early Years Foundation Stage (EYFS) profiles.

The information regarding the ages and family situations, of the six focus participants is collated from evidence from interviews and discussions with Parents/Carers during the year, as well as documentation from school history and evidence from a previous class teacher. This is intended to give a general background on some aspects of the children's lives and experiences. The names given here are not the children's actual names. The Early Years Foundation Stage (EYFS) assessments stated here are based on the 2007 EYFS profiles (Appendix XI), which has subsequently been revised.

CHRISTOPHER

Christopher was five years 11 months old at the start of the academic year. He lived with both of his parents. He was the only child in the family and had regular contact with all four grandparents. He was the only grandchild of both sets of grandparents. His mother reported that he enjoyed swimming and regularly went with his maternal grandmother. Both of Christopher's parents worked full time and so he was often brought to school by his maternal grandfather and collected by his paternal grandparents. Christopher attended nursery full time from the age of two years old. His mother reported that 'he loves learning, enjoying reading information books and building things with his granddad'. His Foundation

Stage assessments from his previous teacher put him as scoring highly on the Early Years Foundation Stage (EYFS) Profile, scoring nine scale points for both 'Reading' and 'Problem Solving, Reasoning and Number'. Christopher was also assessed as above 'age related expectation' in all six areas of learning, based on national expectations for the end of the EYFS (six scale points or above, from 2007 EYFS framework).

BOBBY

Bobby was five years and ten months old at the start of the academic year. He had a younger brother (six months old), and lived with both parents. Bobby joined the class at the start of Year One. His parents said that he used to go to nursery every afternoon, when he was 3, but that he didn't like it. His parents also explained that Bobby had 4 months off school during his Reception year in a different county, after an injury at school, and then a move to a different area. His parents described him as 'clever but excitable', and said that, at home, Bobby likes playing and reading. Given the disruption to Bobby's early schooling there was no current assessment data on his EYFS Profile for the end of the Foundation Stage. The assessment data, collated within the Reception year by a different school, part way through the year, placed him as working 'below age related expectations', scoring below six scale points in all areas, and particularly lower than expected for his age in the area of 'Personal, Social and Emotional Development', scoring just three scale points in each area (Assessments based on 2007 EYFS framework).

PENNY

Penny was five years and seven months old at the start of the academic year. She was an only child and lived with her mother, she had no contact with any other family members. Her

mother reported that 'she enjoys dancing, at home, and often dances along to DVDs'. She attended nursery for two mornings a week, from the age of three. Her mother said that she was very chatty at home, but had been told by the Reception class teacher, as well as previously by nursery staff, that Penny was often quiet at school. This was also reflected within her EYFS assessments, in the area of 'Language for communicating and thinking', in which Penny had only one scale point, which is significantly below that expected for her age. School records showed that Penny had been assessed by a specialist speech and language therapist, but had been deemed to have no speech and language delay. This was also echoed by her Reception class teacher, who said that Penny was very quiet and shy, but could talk, in one-to-one situations. Penny was also assessed as 'working below age related expectations' in 'Personal, Social and Emotional Development', scoring one scale point, which was significantly below average for her age, in the area of 'Social Development'. (Assessments based on 2007 EYFS framework).

LILLY

Lilly was five years and six months old at the start of the academic year and lived with both parents and a younger brother (2yrs old). Lilly had recently started ballet classes and joined a drama group outside of school. She attended a local nursery for five mornings a week from the age of 3. Lilly's mother said that she enjoyed looking after her brother, and often spent time reading to him. She explained that Lilly talked constantly, 'she wants to know about everything', but that she can be a perfectionist and was often hard on herself when she couldn't get something right. She explained that Lilly loved performing and that the dance and drama groups were building her confidence. Lilly's EYFS assessment data shows her to have been working well above that deemed to be expected for her age in all six of the EYFS

areas of learning. She was assessed as being well above age related expectations for the end of the EYFS in 'Reading', 'Language for Communicating and Thinking', 'Linking Sounds and Letters'. 'Dispositions and Attitudes', as well as all areas of 'Problem Solving, reasoning and Number', scoring nine scale points in each area. (Assessments based on 2007 EYFS framework).

DAVID

David was, five years and six months old at the start of the academic year. He was a 'looked after child' living with foster parents, he lived with his birth sister (7yrs old) and younger foster brother (4yrs old), he had no contact with his biological parents. David joined the school at the start of Year One, when he joined his new foster family, having previously been living with temporary foster carers. The EYFS assessment data for David, completed by a different school, showed him working significantly below that expected for his age, however, the data was incomplete and was compiled by two different EYFS settings, as David moved schools twice within the Reception year.

ARTHUR

Arthur was five years and four months old at the start of the academic year. He was the youngest child of four children, with two older sisters (13yrs and 7yrs) and one older brother (15yrs). The family all lived together with both parents. His mother said that he "loves computer games and playing PS3 with his older brother". Arthur also attended breakfast club and afterschool club at the school, and was therefore at school, with his sister, from 8am until 5.45pm. Arthur's EYFS profile assessments showed him to be working just below that

expected for his age, scoring 4 or 5 scale points in each area, by the end of the Reception year, (Assessments based on 2007 EYFS framework). Arthur's previous teacher described him as "living in the here and now" she further explained that "he doesn't place too much emphasis on what has gone before, or what is coming next".

SOCIO-ECONOMIC INDICATORS FROM OCCUPATION OF FOCUS CHILDREN'S FAMILIES

As discussed within the Methodology chapter, the procedure for establishing the socio-economic category for the families was based upon the National Statistics Socio-economic code (NS-SEC) from information provided within discussion with the parents. The NS-SEC allocates specific codes to individual occupations and groups these into broader categories within the 'simplified NS-SEC' which uses occupational categories to indicate socio-economic status, ranging from NS-SEC 8 – "Never worked and long term unemployed" to NS-SEC 1 "Higher managerial, administrative and professional occupations" (Office For National Statistics, 2010, p. 13).

Christopher – ONS Occupational code - 7111 – Sales and customer service occupations – Simplified NS-SEC 6.

Bobby - L14.2 – Long term unemployed. Simplified NS-SEC 8.

Penny– L14.1 – Never worked. Simplified NS-SEC 8.

Lilly – ONS Occupational code - 5313 – Skilled trades occupations – Simplified NS-SEC 4.

David – ONS Occupational code - 3312 – Associate professional and technical occupations– Simplified NS-SEC 3.

Arthur– ONS Occupational code - 6145- Caring, Leisure and other service occupations. – Simplified NS-SEC 6.

(Office for National Statistics, 2010.)

From the Office for National Statistics' classification of socio-economic indicators, the ability grouping of the children did not follow the same pattern of socio-economic ordering of the children's families. (Arthur and Christopher, Lilly, David, Bobby and Penny). However, for the purposes of this research, no specific correlation between economic circumstances and academic achievement is formed, or attempted. The primary concern for this research is on the cultural capital that facilitates or constrains participation, and while others may have drawn parallels between economic and cultural capital in early education, (Walker et al., 1994; Miser & Hupp, 2012; Anders et al., 2012) there are many aspects of the children's individual experiences which are ignored if too great an emphasis is paid to the socio-economic status of their families. For example, although Christopher's family would be classified as 'NS-SEC 6' his wider familial relationships have, potentially, as significant an influence on his developing attitudes and actions, using the occupation of his immediate family, fails to acknowledge the influences of intergenerational cultural reproduction in relation to behaviour and attitudes. Similarly, whilst Lilly's family would, using an occupational scale, be classified as 'NS-SEC 4', her mother's history as previously having worked in a Nursery, may have influenced her values, behaviours, and those that she would hope to engender within her children, to a greater extent than the current status of her immediate situation. In addition, David, as a 'looked after child', has experienced different families and different family situations within his life. Each of these families, are likely to have prioritised different behaviours, attitudes and values and held different practices in esteem. Therefore, although these provide, to an extent, some information, these crude indicators are less indicative of the values and behaviours that scrutiny of the intricate details of interaction can provide.

ASSESSMENT PRACTICES AT THE SCHOOL

As discussed within the literature review, assessment practices employed by educational institutions reflect, and reinforce, pedagogical perspectives on the nature of learning and knowledge. Within this year group, within this school, assessments were based from two sources of evidence, children undertook specific assessment activities, each term, to demonstrate their competence in writing and maths. The maths assessments were drawn from commercially available, resources bought by the school, in the form of age-specific tests that the children completed at the end of each term (approximately every 6 weeks). The writing assessments were obtained through a set task, in which each child would be told to write about the same subject independently. These tasks were then used to ascribe a 'level' to each of the children using specific tools. The maths assessments created a 'score' which equated to a specific National Curriculum Level, and the writing assessments were levelled using the 'Assessing Pupil Progress' (APP) level descriptors for writing (Appendix XII), which, at the time of the research, stipulate the skills and competencies determined as indicative of specific levels of development within writing. In addition to these summative assessments at the end of each term, ongoing day-to-day judgements about the children's individual skills during class activities informed assessment levels ascribed to each child in reading, writing and maths. Assessment levels were then moderated by the teachers, to ensure parity in the evidence presented for justifying level judgements. Within Year One, suitable evidence included the termly summative assessments, examples of children's independent written work, photographs with observation notes of children involved in activities, as well as notes of recorded comments that the children had said during an activity.

Assessment practices incorporating both summative, 'snapshot', evidence of individual competencies and ongoing assessment from day-to-day experiences were explained as intended to obtain a more accurate judgement of individual capability, than reliance upon single assessment activities. However, Martinez et. al. (2009) identify that teacher judgements about student performance can be influenced by wider bias. Their research is primarily concerned with accounting for variation in disparity between assessment from test scores and assessment from teacher judgements, they suggest that part of this variation is due to teachers equating academic ability to specific character traits. They assert that teacher judgements can be influenced by perceptions of student motivation, classroom conduct and engagement, as well as aspects such as gender, ethnicity and ability status. Furthermore, they also suggest that such disparity can also occur as a consequence of teachers using a 'normative scale' by assessing student performance in relation to other students (Martínez et al., 2009).

The use of both ongoing, day-to-day evidence of understanding, and 'snapshot', summative assessment practices were intended to provide a fuller view of the children's capability than either could provide individually, and supposedly mitigate against the negative influence of stereo-typed judgements or normative scales. However, within this school, the absence of delineation between formative and summative functions of the assessment practices potentially contributed to a *Performance goal orientation*, proposed by Dweck (1986) which, as discussed earlier, depends upon and projects theories of intelligence.

Black and Wiliam (1998) highlight the lack of clarity about the functions of different assessment practices and attempt to form specific distinctions by characterising formative assessment as *"encompassing all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and*

learning activities in which they are engaged." (Black & Wiliam, 1998, p. 7). Ames (1992) suggests that feedback activity has potential for contributing to the construction of the *Mastery based goals*, however this is dependent upon emphasising effort and learning opportunities over ability and outcomes.

Whilst obtaining assessment data from both ongoing and snapshot evidence was intended to provide full, and consequently more precise, judgement of capability, by 'blurring' the lines between the two functions of assessment, the day-to-day discussions about children's learning were as focussed upon evidencing understanding as the summative assessments. In addition to the assessment practices constructing a performance based classroom environment, the consequences of assessment data also had wider implications on class teachers, which, potentially, concomitantly added to the prioritising of evidence of capability over the evidencing of effort and perseverance.

Each term the assessment data, ascribing a level for each child in reading, writing and maths, was submitted to the head teacher and pupil progress meetings, between the head teacher and individual class teachers, plotted the progress of individual children in relation to their projected attainment, in addition to evaluating the attainment of the class as a whole. Whole class attainment targets were set at the beginning of the academic year, and stipulated the number of children who were to achieve particular subject levels at the end of the year. These were based upon previous assessment results of the children, from previous years and 'age related expectations', i.e. the level that, typically, children within each year group should achieve. In addition to regular observations of lessons, an 'agreed' percentage of the class attaining particular levels formed the basis upon which teachers' performances were evaluated. Failure to 'achieve' attainment targets for a class, influenced teacher's pay progression and the renewal of temporary employment contracts.

This accountability for student performance, and the negative consequences of not demonstrating significant attainment, potentially, intensified the focus upon evidencing children's understanding and prioritised performance orientation within day-to-day class activities (Brookhart & Durkin, 2003). As evidencing understanding became prioritised over developing understanding, consequently, the classroom assessment environment, potentially, had implications on wider class behaviours which both construct and project theories of intelligence.

Furthermore, discrepancies between the projected and actual attainment trajectories of individual children, or whole classes, resulted in additional interventions, thus reaffirming the legitimacy of increased, focussed attention for increased attainment. The tracking of pupil progress also paid particular attention to the progress of specific groups, particularly children eligible for 'Free school meals' (FSM), as well as boys' attainment in writing and girls' attainment in maths, as these were groups deemed to need focus within the whole school. These groups were to be targeted within class activity and, consequently, evidencing their attainment and their receipt of additional attention, influenced class activity, prioritising examples of outcomes and an emphasis upon performance rather than referencing learning.

GROUP-WORK PRACTICES AT THE SCHOOL

Practices for grouping the children for class activity within the school for the first two terms of the academic year, were determined by the teachers, who were given responsibility for applying different practices according to their perception of the suitability of social groupings for particular purposes. Following the implementation of a new Teaching and Learning Policy at the school, the approach to group-work was formalised, and the development of 'ability'

grouping for all Literacy and Numeracy lessons was established. Further changes to classroom practices were established, by the SLT, from the beginning of term three, each of which was explained as an attempt to raise attainment across the school and target particular groups deemed to be vulnerable to underachievement. Some of the changes to classroom practices were documented within the school's Teaching and Learning Policy, whereas some were more informally established. The main changes to classroom practices, within the Year One class that formed the focus for this research, centred on the school's development of 'ability grouping', 'setting' and 'intervention groups'.

ABILITY GROUPING

The SLT's changes, outlined within the school's Teaching and Learning Policy, required a rigid structure of the Literacy and Numeracy sessions. The policy stipulated that the children should be grouped according to their assessment levels and that the 'least able' children should always be given adult support for group work and class activities. It was further explained that the 'low ability' children should be given an adult to work with them and support them, during all Literacy and Numeracy lessons and should receive focussed group-work with the teacher at least twice per week, with focussed support from a teaching assistant for all other Literacy and Numeracy group activities.

ABILITY GROUPING OF FOCUS CHILDREN

The ability grouping of the children was primarily based on assessment levels and determined during a pupil progress meeting. In ability grouping the children, Lilly and Christopher, continuously responded to given tasks 'appropriately', engaged in conversations with adults, giving explanations and responding to questions, consequently they responded well to

‘school assessment procedures’, evidencing their understanding through discussion and producing written work. Whereas, Arthur, David, Penny and Bobby, fared less well in school assessments, they were less experienced in school based practices, for reasons to be further explored. (For specific assessment data and progression in attainment levels of focus children in writing, reading and maths see tables 3-5 below).

At the start of term three (January), Bobby, David, Penny and Arthur were each assessed at a similar level, each deemed to be working ‘below level one’, according to the school’s assessment procedures and assessment criteria against expectations for progression in skills for Literacy and Numeracy. As David and Bobby were eligible for additional funding, the decision to include them in the ‘low ability’ group was also influenced by the need to demonstrate the measures that the school was taking to address their needs. With the school policy of having an adult always working with the ‘lowest’ group, this provided additional evidence of how the school was ‘tackling underachievement’ and attempting to close the gap in attainment of children from different socio-economic groups.

Table 3 - Assessment levels for focus children, in writing.

writing	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
David	EYFS	EYFS	P8	1c	1c	1c
Bobby	EYFS	EYFS	P8	1c	1c	1c
Penny	EYFS	EYFS	1c	1b	1b	1a
Arthur	EYFS	EYFS	1c	1c	1b	1b
Christopher	1b	1b	1a	1a	2c	2c
Lilly	1b	1b	1a	2c	2c	2b

Table 4 - Assessment levels for focus children, in reading.

Reading	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
David	EYFS	EYFS	1c	1c	1b	1b
Bobby	EYFS	EYFS	1c	1c	1c	1c
Penny	EYFS	EYFS	1c	1b	1b	1a
Arthur	EYFS	EYFS	1c	1b	1b	1a
Christopher	1b	1a	1a	2c	2c	2b
Lilly	1b	1a	1a	2c	2b	2b

Table 5 - Assessment levels for focus children, in maths.

Maths	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
David	EYFS	EYFS	1c	1c	1c	1c
Bobby	EYFS	EYFS	1c	1b	1b	1b
Penny	EYFS	EYFS	1c	1b	1b	1b
Arthur	EYFS	EYFS	1c	1b	1a	1a
Christopher	1b	1a	2c	2c	2b	2b
Lilly	1c	1a	1a	2c	2c	2c

(Age related expectation for children at the end of Year One is level 1b, with a school target set as level 1a)

The teachers were also told by the head teacher, to ensure that each child knew the exact level that they were working at and what they had to do to improve. Whilst there may have been a specific theoretical justification for this, for developing metacognition, within this school the only justification for this practice was explained as being a non-negotiable requirement, in anticipation of an OFSTED inspection. Furthermore, in an attempt to mimic the behaviour, said to be common practice with OFSTED inspectors, the head teacher told all teachers that she would be wandering around the lessons during the following week and

asking children what level they are working at and what they have to do to improve. In addition children's books were to be stuck with assessment sheets, outlining the required skills for the level that each child is working at, shared with the children and ticked off as the children demonstrated each of the relevant skills. By dispersing the boundaries between summative and formative assessment strategies, and advocating that children be complicit in monitoring their own performance, the practices implied that capability was incontrovertibly measurable. Furthermore, these practices appear to advance the construction of an assessment environment which emphasises performance. As discussed previously, building from the 'achievement goal theory' (Nicholls, 1984; Dweck, 1986; Ames, 1992), Alkharusi (2008) identified aspects of school assessments that prioritised specific goals and potentially contribute to students' motivation and achievements. He attributes a 'public assessment environment' to 'performance-approach goals', in that contexts which prioritise overt rankings engender student beliefs which prioritise demonstration of competence, or avoidance of demonstration of incompetence (Alkharusi, 2008).

INTERVENTION GROUPS

As part of the tracking of pupil progress, motivated by a desire to raise attainment of children working at a lower level than that expected for their age, the head teacher implemented a series of intervention groups across the school. Each class was assigned a TA to deliver intervention programmes in Literacy and Numeracy for the lowest attaining children in each class. For the Year One class, the full-time TA, Mary, was given responsibility for running the intervention programmes for the Year One children. The children identified for inclusion within these groups were also determined by the head teacher and based upon assessment levels, as well as membership of particular groups. The additional dimension to the

identification of children for the intervention groups was the availability of 'Pupil Premium Funding' (PPF), this presented accountability as a mediating factor within the decision about grouping. PPF relates to the additional funding that schools receive, for individuals who fall into specific categories: children eligible for 'free school meals'; children from 'service families' and 'looked after' children. This was particularly relevant for determining the grouping for the intervention groups, where additional adults were deployed to run groups every afternoon. The terms of the additional funding required that the head teacher implemented strategies to ensure the progress of eligible children, and assessed the impact of these strategies on the children's levels of attainment in Literacy and Numeracy.

Both David and Bobby met the criteria for the school to receive additional funding, subsequently the head teacher had to demonstrate to the governing body how the funding was utilised to raise their attainment. Inclusion of these children within intervention group programmes was, in part, influenced by that accountability. Although Penny would also have been eligible for PPF, as she was eligible for 'Free School Meals', her mother chose not to register and subsequently, the school did not receive additional funding for her, therefore she was not included on the tracking data for FSM children.

The head teacher established the intervention programmes to be applied throughout the school, and provided *training* to each of the TAs that were to be delivering the programmes. This training consisted of one example lesson, in which the TAs watched the head teacher delivering an example lesson to a small group of Year Three children. The head teacher provided the TAs with the intervention programme materials, and the TAs were tasked with creating the resources outlined within the material. The head teacher monitored the way in

which the programmes were being delivered through formal observations of the TAs' practices. (Example of Literacy and Numeracy intervention lesson Appendix XIII and XIV)

SETTING

Under the direction of the head teacher, all infant children (Reception, Year One and Year Two) were 'set' for their daily phonics lessons. Each child was assessed and put into either the Reception, Year One or Year Two class, according to their phonic assessment level, in addition to some consideration for number balance between each of the three classes. Some children, therefore, stayed in their usual classroom with their usual teacher, whereas others would go 'up' or 'down' to other classes, to be taught by other teachers for their daily 20 minute phonics lesson. The justification for this practice was given as being 'good practice' to ensure that individual needs were met and that a sufficient number of children reached the required level in the phonics screening checks at the end of Year One.

CHAPTER 6: FINDINGS AND DISCUSSION

CHAPTER INTRODUCTION

This chapter initially considers some of the influences mediating the school practices. It then goes on to compare different aspects of the observed activity and the children's experiences within different ability groups, and considers the repercussions of these differences for continued participation within school. The first main theme which emerged from the data, in relation to the contrasting experiences of children in different ability groups, related to the limitations of the physical spacing of the children for across group peer support and interaction. The second theme concerned the regular use of an adult with children deemed to be of *low ability* and involved comparison between the experiences of the children with and without adult support. Whilst not claiming that complete parity between each individual's experiences is desirable, or achievable, the observed differences between the experiences of the children from each of the different ability groups had notable, potential, consequences upon their developing understanding of their roles and positions within it. The final section of this chapter, therefore, considers the individual children's experiences and the outcomes of their experiences on their academic progress as well as their developing understanding of participatory behaviour.

INFLUENCES MEDIATING ABILITY BASED PRACTICE

As stated previously, the development of ability based practice at the school was instigated and advanced by the head teacher, however the impetus for this did not occur in isolation from wider culture. Throughout the implementation of ability based practice, the head teacher's justifications were explained as strategies for raising attainment that had been

'successful' at her previous school. Emphasis upon OFSTED's perception of good practice was also used to justify much of the activity and validate the practice. This was also often supported by equating the success of the school, and the teachers, to the attainment levels of the children. In addition, the performance management of the head teacher, heavily relied upon the attainment levels of the children.

An additional dimension to the desire to raise attainment at the school was the perception of the school within the wider community and the evaluation of a school as 'good', or 'inadequate' within common parlance. If one views the purpose of school simply as the provision of education, then the use of assessment levels of the children as a means which claim to measure the quality of this provision appears to stand beyond interrogation.

As the children's Literacy and Numeracy levels were used as the measure of success of the children, of the teachers, of the head teacher, of the school and, to an extent, of the parents, then this sculpted the activity and priorities of the school and the individuals. With consideration of the previously discussed 'Achievement Goal Theory' (Nicholls, 1984; Dweck, 1986; Ames, 1992; Brookhart & Durkin, 2003; Alkharusi, 2008) this focus on children's *performance* is, therefore, constructed from a wide variety of sources. Consequently, whilst referencing the head teacher's role in implementing specific strategies and exploring the TA's activity within ability based practice, it is not the intention of this research to attribute, or imply, blame to an individual or professional group. One aim of the research is to explore the influences that shape ability grouping, but, as outlined within the discussion of the interconnection between pedagogy and practice, this occurs from many different levels of activity, beliefs and policies.

INFLUENCES MEDIATING PARTICIPATION IN ABILITY GROUP AND INTERVENTION GROUP ACTIVITIES

CONCEPTIONS OF ABILITY WITHIN THE SCHOOL

This part of the data analysis uses some examples from staffroom discussions and comments to explore some of the conceptions of *ability* which both expressed and, in part, constructed the notions of ability which, potentially, mediated the adults' interactions and interpretations of different ability groups.

A further dimension to this is the training and expectation of the TAs' professional development. At this school, new TAs did not receive any specific training, to support the development of their day-to-day roles. The expectation was that new members of the support team would develop their skills and understanding within their roles with the support of the class teachers, Phase Leaders and 'Special Educational Needs Coordinator'(SENCO). This does not appear to be unique to this school, from research carried out by Teeman et al. (2008) into the training and development experiences of school support staff, they found that 39% of their respondents had not had any discussion about their training and development needs when commencing their employment. Furthermore, 20% of respondents did not know where to access information about training and development, and 65% identified barriers to training and development.

In considering the teaching assistants' learning, in this context, from the perspective of a 'community of practice' (Wenger 1998), then the behaviour and perspectives of the 'long-standing' members of staff, served as a model for newer members in developing their conception of their roles, and their conceptions of what 'being a teaching assistant' is. The

centripetal development of becoming increasingly familiar with the behaviour, perspectives and practices of teaching assistants was therefore, in part, constructed and mediated by the more established members of the support staff and the narrative that surrounded conceptions of ability. Without any specific training to develop a counter-narrative, the TAs' pedagogical understanding of the beliefs that underpin practices, was dependent upon their interpretation of the implicit messages projected through specific practices, discussions and activity. One element of this was understanding about the nature of intelligence and assumptions about cognitive flexibility. As discussed previously, Dweck (1986) proposed that the goal orientation of students was dependent upon theories of intelligence. Dweck et al. (1995) also proposed that beliefs about human attributes as either fixed or malleable, influenced how individuals perceived actions and outcomes.

Implicit theories of intelligence are the more or less systematic ways people think about the ability to learn. They have been found to exert influences on how people approach different learning goals and how well they achieve in learning contexts (Dweck 1999). Two types of theory predominate. People seem to have a preference for either an entity theory where intelligence is seen as a fixed trait and unchangeable or an incremental theory where intelligence is seen as malleable and changeable.

(Jonsson et al., 2012, p. 387)

Contrary to a view of 'ability' as a reflection of experience of a multitude of cultural tools and practices, within and across different communities, the staffroom narrative that surrounded, and contributed to, notions of ability reflected a different perspective (Appendix XV). Comments and discussions amongst some members of staff within the school tended to fall into three categories, each attributing 'blame' for 'low ability' upon either the child or the home. I have categorised the comments into three groups, where comments reflected 'an

innate incapacity for learning', 'child's laziness', or 'a disturbed/chaotic home-life' (Appendix XV). These comments were made by members of staff across the school and do not relate specifically to the focus children or the Year One class, however, they reflect the common views held within the school.

Comments grouped into 3 broad categories -

'Innate incapacity for learning.'

- Have you met the mother though, the apple doesn't fall far from the tree with that one.
- My daughter was at school with her mum, the stories that I can tell you...Her kids never stood a chance.
- The brother was the same.
- He tries hard, but it just doesn't seem to sink in.
- She's off the wall. I love her, but she's never going to be a brain surgeon and she just disrupts everyone else.

'Chaotic/disrupted home life'

- There's seven of them living in that house. I hear them, they're wild. She probably comes to school for a rest that's why she doesn't want to do the work.
- He's up till all hours, he doesn't have breakfast, he always looks like he's just rolled out of bed.
- She's been through so much. She's missed so much. She'll never catch up.
- They don't talk to him. He's just plonked in front of the TV or computer games and he never has a conversation. It's no wonder that he can't talk yet.

'Laziness'

- He's not that bad when he wants to be. He'll only do the things that he's interested in.
- No big shock there, he was like that in Class 1. He wanted everything done for him. He didn't want to do anything himself. If he could get away with it he'd do nothing all day every day.

In considering the educational consequences of identity based rejection London et. al. (2014) assert that bias and marginalization “*unduly disadvantage the development potential of negatively stereotyped groups*” (London et al., 2014, p. 160). Although focussed on social

identity characteristics such as race or gender, London et. al. (2014) illustrate the subtle messages conveyed within educational institutions which undermine individuals' sense of belonging and motivation to participate (Ibid). However, Levy et. al. (1998) suggest that implicit theories influence an individual's social stereotyping, suggesting that incremental theory challenges the fixed trait assumptions upon which stereotyping depends.

Although by no means exclusively determined by other people's conception of ability, this, in part, possibly accounts for some of the different interactions between adults and different children at the school. From Cole's (1998) view of projected futures structuring activity in the present, the misconceptions about ability, potentially create misinterpretation of children's behaviour, or a misinterpretation of the behaviour required to assist the children, and have consequences upon the children's behaviour and identities within school.

INTERVENTION GROUPS AND AFTERNOON ACTIVITIES

As discussed, part of the head teacher's strategy for raising the attainment of the 'low ability' children was the implementation of focused intervention groups. Inclusion within these groups was determined by the head teacher and was based upon progress from National Curriculum Assessment Level data, as well as eligibility for Pupil Premium funding. The head teacher established the intervention programmes to be applied throughout the school, in addition, she redeployed teaching assistants to deliver the programmes for children in each class. The head teacher herself provided the training to each of the teaching assistants who were to be delivering the programmes and monitored the way in which the programmes were being delivered through formal observations of the teaching assistants' practices. The intervention programmes were different for each of the classes within the school, but each

focused on developing key skills in Literacy and Numeracy. Although not all classes had children who were targeted for participation in both the Literacy and Numeracy groups, for the Year One class, both David and Bobby were included for participation in both programmes.

There were significant implications from the inclusion in the intervention groups, on the structure of the children’s day. The ‘low ability’ children’s mornings were already dominated by adult controlled activity, the inclusion of the children in intervention groups within the afternoon created further time in which the children were involved in small group work directed by an adult.

	Timetable for low ability children	Timetable for other members of the class
8.45-9.00	Free choice activities in class.	Free choice activities in class.
9.00-9.20	Phonics lesson in Reception class.	Phonics lesson in Yr1 or Yr2 class.
9.20-10.20	Literacy lesson in class with adult.	Literacy lesson in class, sometimes with adult and sometimes independent.
10.20-10.40	Playtime.	Playtime.
10.45-11.45	Numeracy lesson in class with adult.	Numeracy lesson in class, sometimes with adult and sometimes independent.
11.45-12.00	Whole class story.	Whole class story.
12.00-1.00	Lunchtime.	Lunchtime.
1.10-1.30	Guided reading with adult.	Guided reading activities, sometimes with adult and sometimes independent.
1.30-2.00	Literacy intervention group with adult.	Focus activity in class and ‘free choice’ learning activities.
2.00-2.30	Numeracy intervention group with adult.	
2.30-3.00	Focus activity in class.	

Although, at times, there was a degree of variation in this timetable, depending on ‘special events’, for the majority of terms three, four and five, this represents the quantity of time

that the 'low ability' children were engaged in adult controlled activity. In addition to the impact upon the structure of the 'low ability' children's day in relation to the other children within the class, as well as their access to other curriculum subject areas, a further dimension to this timetabling is the preoccupation with specific curriculum subjects and pedagogical approaches. The intervention activity groups restricted the children's access to the 'free-choice' activities, which formed part of the class activities for others.

The implementation of the intervention groups across the school was monitored and appraised as part of the ongoing performance management of TAs within the school, in the absence of an EYFS and KS1 phase leader, the head teacher undertook some responsibility of the performance management of the TAs. Conceptions of appropriate, desirable, delivery of the intervention activities were based upon progression through a prescribed set of skills and activities. The intervention programmes were designed to be delivered by TAs and were presented, in the main, in a 'script' form. The format for the group work from the programmes identified the resources needed, the objective, the activity, and the questions to be asked of the children. In addition, the programmes provided a series of instructions for the TAs to follow within each of the activities, outlining what to say and what to do, at each part of the session. Both the Literacy programme (Example session Appendix XIII) and the Numeracy programme (Example session Appendix XIV) for the Year One children involved 20 minutes of small group-work, directed by the TA, each afternoon. Conceptions of 'good practice' during the monitoring of the group-work by the head teacher, emphasised the management of the children's behaviour within the group-work as well as the teaching assistant's ability to 'follow the script' within the given time-frame. As identified by Gibson and Patrick (2008) the structuring of the intervention programmes for delivery by TAs, both reflects and projects transmission models of teaching and learning. However, the restrictions placed upon the TAs

were not solely a consequence of the intervention materials. As discussed previously within the literature review, research into the implementation of intervention programmes for raising attainment, emphasised the training and pedagogical understanding of the TAs on the quality of the support given (Webster et al., 2011). Consequently, the head teacher's focus for the intervention procedures contributed to the structuring of their delivery and the extent to which they were orientated towards specific goals and their associated theories of intelligence (Dweck et al., 1995).

The TAs' perceptions of their roles within the intervention groups, as well as the utility, or futility, of the intervention programmes for raising children's attainment, were also mediated, in part, by other members from the wider school community. Comments overheard by other TAs at the school expressed, and influenced, conceptions of the purpose and priorities for the group-work, as well as negative perceptions of their suitability for their intended purpose and negative perceptions of the children included within them (Appendix XVI).

Comments overheard by staff members relating to intervention groups (Appendix XVI)

- My group don't mess around. They don't try that with me. They wouldn't dare, they know me too well, I wouldn't stand for it. (TA re: Yr4 Literacy group)
- It is heartbreaking having to take some of them out of lessons. They don't want to leave their friends to do more Maths or more writing. They miss out on all of the Art or all of the PE lessons, they are the ones who need all that the most. (TA re: Yr 2 intervention groups)
- We had a breakthrough moment in group today. After how many weeks of practising counting in tens, *Child's name* finally got up to 50. Maybe by the end of the year we'll have got to 100. (TA re: Yr3 Maths group)
- All this time and energy always goes on the naughty ones. The ones who listen, always get on with the work, always concentrate, they should be the ones who get more help.
- People used to have such a laugh at this school. It was such a happy place to be. Now all

we do is Literacy and Numeracy, just so she [the head teacher] can make herself look good. They are missing out on so much by doing these groups and they don't even help them. They're not getting any better in class. (TA Re: Yr5 intervention groups)

- How are we supposed to get work out of them when the teacher can't? We'd be better off taking the ones that want to do well. (TA Re: Yr 4 Numeracy group.)
- Some of them want to learn, but the others take up all of the time. By the time you've settled them down, the others have lost interest. Some of them should get one-to-one or nothing, they are too disruptive to have in a group. (TA Re: Yr 4 Numeracy group.)
- They're not near the same level. The books are too hard for some of them, but if you give them easier ones then the others just get bored. If they read at home then they wouldn't need all this extra help. (TA Re: Yr2 reading group.)

Similar to, and in part mediated by, the comments relating to ability, these comments may have, in part, acted to construct the TAs' behaviour, approach and perception within the intervention activities. Although I am not suggesting that these comments directly formed the Year One TAs' individual opinions, or that they consciously adapted their behaviour as a consequence of these comments. However, the narrative that surrounded the intervention groups may well have influenced their perceptions of the group-work and their interpretations of the children's activity, which may have subsequently sculpted their approach and behaviour within the activities, by sculpting the implicit theories which structure the way that individuals interpret actions and experiences (Dweck et al., 1995).

The influence of conceptions of ability on the interactions between adults and children within the class and within the intervention activities formed an aspect of the next element of the analysis, which considers the differences between the children's school experiences as a consequence of their groupings.

EXPLORATION OF INTERACTION IN ABILITY GROUPS

This element of the analysis attempts to address the aim of the research in examining the influence of ability grouping on children's learning, and explores some of the observed activity to consider the consequences of ability grouping on individual's experiences of school. This section explores significant differences between the children's experiences based upon their positioning within the ability groups. Whilst not suggesting that complete parity between the children's experiences of school was possible, this section of the analysis outlines some differences which may have repercussions on the children's participation. The first relates to the physical positioning of the children as a consequence of rigid ability grouping and explores how the distancing of the children minimised opportunities for the children to support each other's participation. The next part of the discussion contrasts some of the focus children's class activity and considers the interactions and opportunities afforded to the children within different ability groups. The final part of this section outlines differences between the children's experiences as a consequence of their removal from the class, either due to their involvement in intervention activities or their inclusion in 'set' groups for activities in other classes.

PHYSICAL SPACING OF CHILDREN WITHIN ABILITY GROUPS

This part of the discussion explores some of the interactional skills developed through outside school experiences which influenced participation in school activity and which, potentially, had advantages for supporting others' participation in school, but due to the segregation of the children into ability groups, its potential was not realised.

One of the main obvious consequences to the use of within-class ability grouping, was the physical positioning of the children restricting access to each other as sources of support for participation. An aspect of determining fixed grouping of the children was assigning specific seating areas for each of the groups. Consequently, the rigidity of the structured ability groups determined the peers that each child would have opportunity to interact with. Much research into pupil organisation has focussed upon the formation of classroom seating (Marx et al., 1999; Fernandes & Rinaldo, 2008; Wannarka & Ruhl, 2008; Bicard et al., 2012; Cox et al., 2012; Ngware et al., 2013) rather than the social relationships of the individuals. Whilst some research has explored the significance of friendships on classroom group work (Kutnick & Kington, 2005; Hanham & McCormick, 2009) little attention has been paid to the influence of ability based grouping on children's social relationships.

The structuring of the children's groupings and the positioning of peers within the classroom appeared particularly significant when considering the individual skills that the children had developed through wider community interactions, but which had particular relevance for participation in school. This aspect of the discussion considers some of the observed interactions during the first two terms, in which examples emerged of the connections between in school interactional styles and outside interactions between siblings and care givers. Building from Bourdieu's (1990) discussion on the relationship between 'habitus' and 'field', examples from the observed activity appear to exemplify the significance of congruence between inside and outside school interaction. A further dimension to this, was the behaviour which, not only facilitated participation for the specific individual, but also had potential to facilitate the participation of others, however, this potential was restricted by the positioning of the children within different areas of the classroom within different ability groups.

From the observations of the interaction between the children during the first and second term of Year One, the influence of home interaction and family dynamic were evident. This was most notable during observations of Lilly and her interactions with her mother and her brother, compared to her classmates, in that the linguistic activity that Lilly and her mother engaged in reflected that encountered between the children and adults in the school situation. For example during one of the original structured observations, (Observation 2, transcript Appendix II) Lilly, correctly, interpreted a convoluted question from an adult in the class as an instruction. Rather than responding to the adult, she directs the reply to another participant, focussing on attempting to use the 'appropriate' terminology.

ADULT- Well let's ask everybody. How could we ask, to find out what criteria other people want to use to sort the shapes?

LILLY - Penny how would you like to sort the shapes?

PENNY – Shape

LILLY- By shape? So like triangle, squares, circles?

PENNY-Yes

LILLY - I think that's a good idea.

(Full transcript Appendix II)

This style of questioning, using questions as instructions, reflects the interactions observed between Lilly and her mother, but differs to the interactions seen between Bobby and Arthur, for example, from field notes during observed interactions between parents and children at school each morning, the children entered school and followed the same routines. In this school, the parents were able to accompany their children into class each morning, if they wanted to, for the first 10 minutes before school started. Observation of interaction between the adults and children at this time appeared that discussion centred on the organisation of

the children's bags, coats and dinner money. Much of the observed interaction between the children and their adults followed similar regular patterns, and show distinctive differences. For example Arthur's interactions, usually from his older sister, were often instructional, with phrases like: "put your book-bag away"; "go back and get your jumper" or "move your name", subsequently he was observed responding to instructions rather than interpreting meaning from complicated dialogue. Bobby's mother brought in his water bottle and book-bag, and put it away for him, whereas, Christopher put his away in the correct place independently, as a matter of routine, without any observed prompting. In contrast to each of these, Lilly's mother tended to use questions to guide activity and encourage Lilly to think, for example "What have you forgotten?" or she used gestures without words, for example holding up her water bottle, to remind her to put it away. This reflected a style of interaction far more congruent with that encountered between the adults and children within school.

The language patterns of classroom interaction have received much attention (Barnes, 1976; Mehan, 1979; Mills et al., 1980; Mercer, 1995; Galton et al., 1999; Kutnick et al., 2002; Blatchford et al., 2003; Littleton et al., 2005; Blatchford et al., 2005; Wells & Arauz, 2006; Kutnick & Berdondini, 2009; Howe & Abedin, 2013) as have the influences of home and child interaction on school success (Bernstein, 1971, 1990; Wells, 1979, 1980; Walker et al., 1994; Pancsofar & Vernon-Feagans, 2006; Melhuish et al., 2008; Miser & Hupp, 2012; Kapellidi, 2013). Much research has identified discontinuity between home and school dialogic interaction as a factor in school achievement. Lovelace and Wheeler (2006) suggest the use of 'culturally responsive practices' as a means of alleviating the differences in academic achievement that can occur as a consequence of discontinuity between home and school language socialization patterns. They expand upon this by identifying features which reflect sensitivity towards individual's home cultures, languages, values and strengths. Identifying

'high teacher expectations', 'legitimising variances in student voices' and 'varied instructional formats' as the culturally responsive practices which may potentially counteract the negative influence of discontinuity between home and school cultural linguistic practices (Lovelace & Wheeler, 2006). However, whilst a variety of research exists, exploring the interactional patterns of parent-child and school-child, they are dominated by asymmetrical, adult-child interactions. Little obvious attention has been paid to the mediatory influence of competent school language users for bridging gaps between home and school interactional experiences.

This appeared particularly significant during the classroom observations, as Lilly's behaviour towards David and Arthur, within the structured observations, which echoed her interactions with her sibling, in which she is encouraged to explain things to him, talk about her classroom, her activity and adopt a 'guiding role' from perceptions of his current understanding. This reflects the process of 'guided participation' outlined by Rogoff (2008) which explores how interactions establish what individual agents, know, or can do, determine what else they need to know, or do next, and the arrangement of the means to 'bridge' learning between the two points, through 'simplifications'. Rogoff (2003) explains the process of 'guided participation' as *"children and their companions supporting their shared endeavours by attempting to bridge their different perspectives using culturally available tools such as words and gestures and referencing each other's actions and reactions"* (Rogoff, 2003, p.285). Within the observed activity (Appendix II), Lilly was able to interpret the adult's direction for the activity and restate it in simple terms to enable Arthur to participate. She exhibited specific skills in 'reading people' identifying social references accurately. Similarly, her approach to Arthur during that activity, attempted to support him in understanding, she offered a step by step guide on how to complete the activity, building from the adult's instructions but explaining them in a way that Arthur could understand the intention of the activity.

LILLY- Like this, look, I'll show you. Pick up a shape...what shape is it?

ARTHUR- A square

LILLY- Sort of, it has square bits but it is actually a cube, ok?

ARTHUR – Yep cube, I forgot.

LILLY- That's ok...then you put the cube in the right pile. Which pile do you think?

ARTHUR – There

LILLY- Well done, then you get another shape. Understand?

There were also similar observations of Lilly taking on an 'older sister' role identified from other observations of classroom activity, in which her interactions appear to be echoing her relationship with her younger sibling and guiding the participation of others. For example, during one of the class activities designed to encourage verbal explanations of observation, the class were sat on the carpet after lunchtime play. There was a large picture on the whiteboard, which showed two images, as the children came in from lunchtime play, they looked for the differences between the pictures. The adult then asked some of them to say where the differences were. The intention was to reinforce the use of positional language and gain familiarity with explaining their observations verbally. Lilly and Christopher, had no problem using specific and technical language to explain their observations, whereas, initially, both David and Arthur, predominantly used gestures or single words to point at and draw attention to specific aspects. Lilly, then, offered answers for David, appearing to want him to 'be successful', she finished his sentence and told him what to say. For example, during a 'spot the difference' activity, within term one (Appendix XVII).

DAVID- (pointing) – there on that black bit.

ADULT- How else could you explain it to me? What words could you use to tell me where the difference is?

DAVID– (pause) the black bit (pause) on that side.

LILLY– He means the pocket. One side hasn't got a button and one side has.

ADULT – Can you let David explain it to me?

LILLY- (to David) you mean the button don't you?

DAVID- (to adult) yeah the button, it needs a button on that side.

From this activity Lilly acts as an intermediary between the challenge set by the adult and the linguistic experience of David for meeting the challenge. In considering this in relation to the 'semiotic mechanisms' for progression through Vygotsky's ZPD, discussed by Wertsch (1985), Lilly provides a link between the adult's requirements for completing the task successfully, and David's linguistic experience for meeting the challenge. By supposing the required response, and supposing David's intention, Lilly is able to facilitate him by 'filling in' the missing information. Much of the focus on the development of skills through the support of 'a more experienced other' is focussed on dyads in interaction, focusing on 'tutor' and 'tutee', or 'novice' and 'master' co-structuring activity. Whereas, from this example, Lilly was able to 'bridge' the gap between the adult and the child by supposing his intention, and then giving him the language with which to express himself. From this example, she is guiding his participation, enabling him to meet the adult's goal and, potentially, developing his understanding by positioning, a 'right answer', within the gap between the adult's required responses and the scope of David's experience to articulate it.

Lilly's experience of interpreting and explaining situations and responses to her younger brother, potentially enabled her to provide useful support to others within school. However, by restricting the physical contact between the 'high ability' and 'low ability' groups, the opportunity for Lilly to provide this intermediary intermental support to others was limited. Similarly, Lilly's interaction with Penny during the observed activity appeared to provide a similar conduit between the requirements of the context and the skills of the individuals.

In contrast to Lilly's experiences enabling her to gain familiarity with interpreting and explaining meaning to others, Penny's outside interactions and experiences were markedly different. In class Penny was seen to be quiet and reserved, she initially preferred watching others than specifically engaging in play activities, a trait which was commented upon by her previous teacher and, according to her mother, her nursery. However, aside from nursery and school, she appeared to be used to being with one caregiver, having no other, apparent, significant relationships, and was used to engaging in conversation with a different degree of intersubjectivity and shared frames of reference (Rogoff 2008). She therefore may well have less need for explicit, articulate expressive dialogue, within her wider experiences, as she is used to an adult who engages with her exclusively, with a reciprocal understanding of intention and direction of conversation and activity which is significantly different from her experience of school. Through familiarity with an adult that is able to assume the intention of the child's discussion, suppose meaning from minimal dialogue and attend to her without the necessity to explain herself, it is possible to suppose that, in contrast to Lilly, Penny had less experience of encountering situations in which the person that she is talking to did not already know what she meant from limited dialogue.

Barry and Wentzel (2006) attribute friendship to the development of prosocial behaviour, examining the specific processes which, they assert, link prosocial goal pursuit to prosocial behaviour. In addition, later school success has been attributed to the development of early social skills and prosocial behaviour, both in terms of cognitive benefits and in terms of the positive influence of apparent social competence on school assessment procedures. (Wentzel, 1993, 1999; Normandeau & Guay, 1998; Denham, 1986, 2006; Valiente et al., 2008; Denham et al., 2012, 2014). Given the relation between the development of social skills and academic achievement, as well as the influence of friendship upon the development of

prosocial behaviours, then there were hypothetical implications of Lilly and Penny's relationship for developing interpersonal skills. However, their separation into different ability groups limited the potential of this contact from being realised.

During the observed interactions in mixed ability activities, Lilly appeared to apply the skills developed within her family to support Penny's participation within observed class activity (Appendix I-VI), by including her within discussions, directing questions to her and explaining how to complete specific tasks. For example within one of the observed activities (Appendix I), the children were drawing a picture together.

Lilly - Are you doing a fox too? Well I'm doing a fox, see if you can make yours like mine. Shall I show you? Look, you put a tail there and a long nose. I put his ears on, like a dog really.

Similarly, during the shape sorting activity (appendix II), Lilly directs questions to Penny to enable her to be included within the discussion. Lilly draws Penny into the discussion and activity, potentially enabling her to feel like a participant. In addition, increased familiarity of her enabled Lilly to not allow Penny to withdraw from responding. For example, during a class activity (Appendix III) in which the children had to complete a puzzle together, Lilly poses a straightforward question to Penny, however Penny appears to not intend to respond. Lilly stops and looks at Penny, requiring a response, and not allowing her to ignore the question.

Lilly-Have you done it?

(Lilly asks Penny a question and pauses before she answers.)

Penny – No

Lilly did not allow Penny to choose not to answer, she waited, for an extended time, for Penny to respond. Whereas some children would walk away from an unanswered question, Lilly

persisted in requesting a response from Penny. By participating in class activities with Lilly, Penny's inclusion is assisted by Lilly's capacity to facilitate others. However, by structuring the groups according to conceptions of the children's ability, these opportunities for one child to facilitate the participation of another were restricted, as the only opportunities for facilitating participation were from the small group of children assigned to the same group, deemed to be of similar ability. Furthermore, the social competence exhibited by Lilly had a theoretical potential influence upon Penny's developing social skills, which, again, was not able to be realised due to their separation during the majority of their class time.

COMPARISON BETWEEN INTERACTIONS IN DIFFERENT ABILITY GROUPS

This part of the discussion aims to compare the interactions within class activity, between children in each of the different ability groups, to further explore some of the intermental consequences of the institutional practices.

As discussed previously, the school's response to perceived underachievement frequently ascribed an additional adult as an attempt to facilitate increased attainment for low achieving children. Contrary to the prevailing view, both from the school and commonly reflected by the parents, that increased adult attention equated to better educational opportunity, the impact of the use of support staff has been seen to either have no effect or to negatively correlate to increased attainment (Muijs & Reynolds, 2003; Blatchford et al., 2009a; Blatchford et al., 2009b; Webster et al., 2011). Explanations for this have centred on children's decreased contact with teachers as a consequence of their increased contact with TAs, (Blatchford et al., 2009b), TA support of activities tending to be product focussed rather than process focussed (Blatchford et al., 2011), and TA preparedness in terms of subject knowledge and pedagogical

understanding (Webster et al., 2011). Each explanation suggests that the increased use of support staff, potentially, results in limiting the educational experiences of the children that their presence is intended to enhance.

This aspect of the analysis further interrogates the implications of adult support for low attaining children. The analysis first explores the different educational experiences of the children within each of the ability groups, to consider the repercussions of this for continued participation. This was particularly pertinent in considering the influence of the adult's presence on the differences between the school activity experienced by the 'low ability' group, in comparison with the other groups (Appendix XVIII-XX). The two main differences in the experiences of the children within this example relate to engagement in dialogic conventions through opportunity for non-task-related conversation, and the availability of peers as 'more able others' in relation to adults' conceptions of acceptable, or unacceptable, use of peers as a model. Both of these have potential implications on the assessment of the children. The analysis then goes on to relate conceptions of ability within the school to the differences in the way that a TA interacts with children for the 'high ability' group and the 'low ability' group.

These examples provide a snapshot observation of class activity. Each group was observed within the same lesson to explore whether there were consequences to the grouping, and the allocation of adults, on the children's interactions and experiences. This class writing activity followed from a practical planting activity in which the children had each planted a seed, for this lesson, the children had been tasked with writing an account of how they had planted their seed. All children have had a whole class discussion, with pictures taken during the seed planting. They were focussing on sequencing each aspect of the activity and including

time connectives. The children had worked in pairs on some shared composition and shared writing.

Example interaction during Literacy lesson, with 'low ability' group, supported by class TA

(Lucy). (Appendix XVIII) (This excerpt is from the start of the group activity).

Children are seated around a table, they each have their own Literacy book as well as phoneme cards, pencils, whiteboards and pens that are in the centre of the table.

TA- Right, looking and listening, let me see that you're ready (TA exaggerates sitting up straight and widens eyes.) So, David, what was the first thing that you did when you planted your seed?

David- I got a pot.

TA- Ok. So 'first I got a pot'. What sound can you hear? What are you going to write first?

David – 'f' 'f' 'ir'.

TA- That's it f, ir, s, t (segments word into phonemes). So what letters do you need? (Shows phoneme card.)

David- (Points to 'f'). Then...(pause)...is it 'e, r'?

TA- No its 'l'. 'Eff, igh, ar, es, tee' 'first'. Do you want me to write it for you? Here (takes whiteboard from table centre). What was your whole sentence?

David – Um. I got a pot.

TA – (Writing on whiteboard) 'First I got a pot'. There you go.

TA – Bobby, what are you going to write?

Bobby – First I got a pot.

TA – No, think of your own idea.

Bobby – Err, I put mud in.

TA – No, what did you do first?

Bobby – Err, I got a pot.

TA- Ok, how do you write 'l'?

Bobby-(looks at David's writing and forms 'l' in the air).

TA – Don't just copy, think about it yourself.

Bobby – (Draws 'l' again in the air. Looks again at David's writing) 'g, o, t'.

TA – Come on, try to work it out by yourself. Don't just copy. Come and sit over here, and let David get on. (TA moves Bobby to another seat, further away from David).

From this excerpt of activity, the adult has control over the focus of the discussion, the progression of the activity and the conceptions of acceptable behaviour within the activity. At the outset of the activity, the adult requires the children to sit and listen as she talks to each one in turn. Despite directing questions to the children individually, she requires that all children pay attention to the discussion. She initially asks David a direct question, then restates his response, with the inclusion of the additional information that she considered appropriate for the completion of the task. Initially, when talking to David, she attempts to structure his thinking by posing questions to enable him to complete the task. From this initial conversation with David, she starts to support him to identify the sounds that he needs and the letters that he needs to write his sentence, however, as he starts to struggle with identifying the appropriate letters, she records it for him to copy. In considering this against Wertsch's (1985) 'semiotic mechanisms' for progression through the ZPD, then in some respects she initially uses abbreviated references to guide David's participation, by posing questions for which the responses provide the steps to complete the task, however she did not break the steps down further when his response needed further discussion. By then recording the sentence for him to copy, the task became product focussed, in that the results of the activity, the production of a written account of their seed planting, superseded the processes for writing. She proceeds to pose the same questions to Bobby, but when Bobby gave the same response as that which was 'a correct response' during her discussion with David, it becomes an 'incorrect response' during her discussion with Bobby. Throughout this excerpt, the adult poses questions for which there are correct, or incorrect, responses. The criteria for what constitutes a 'correct' response are determined by the adult and therefore,

the children's role in their activity is reduced to the following of instructions by interpreting, or guessing, the response that the adult wants to hear.

This appears to echo research from Webster et al. in their finding that TA support of children tended to be focussed upon task completion, rather than the learning processes. Furthermore their research also suggested that TA talk with pupils, although occurring in greater quantity than teacher talk with pupils, tended *"to 'close down' the talk both linguistically and cognitively"* (Webster et al., 2011, p. 14).

As discussed within the theoretical review, the class activities were not detached from wider community beliefs. The restrictions placed upon the children in the 'low ability' group, were, in part, a consequence of the adult's perception of the children's capability, in addition to her conception of acceptable/unacceptable practice, or behaviour. Therefore, the adult's wider understanding about 'ability', in part, forms the basis upon which she interprets her interactions with the children, and determines her role in supporting them. As outlined within the context overview, the general understanding of ability within the school tended to identify low ability as a deficiency in the child or in the home, a belief which appeared to be sanctioned by policy and practices within the school.

Within the example of the TA working with the low ability group, the TA uses herself as a model for David's writing, first encouraging him to sound out, and spell, the words that he wanted and then recording the words onto a whiteboard for him, in an attempt to aid his writing. Whereas, she actively prevents Bobby from using David's writing to support his own. In contrast to this group's restricted use of peers as a source of support for writing, the following example demonstrates that the 'middle ability' group freely use peers as a model,

or prompt, for their writing, potentially enabling Arthur to progress in the activity further than he would have been able to independently.

Example interaction during Literacy lesson, with 'middle ability' group, working independently (Appendix XIX) (This excerpt is towards the end of the group activity).

Children are seated around a table, they each have their own Literacy book as well as phoneme cards and pencils.

Arthur – How do you do 'after'?

Child A – 'ar', 'f', 't', 'er'. (picks up phoneme card) Look 'ar', 'f', 't', 'er' (pointing to each picture on phoneme rainbow).

Arthur-Thanks.

Child A- Did you write 'after that'? I've used 'next', 'then', I'm gonna use 'after that' next.

Arthur – For the water? You using 'after that' for the water? (Looking at Child A's work).

Child A – Yep.

Arthur – Me too! (Laughs) What you doing for the mud one?

Child A – I've done that one (holding up work and pointing) I did 'then'.

Arthur – (Holding up work and pointing) Me too! What one are you using then? After the 'after that' one?

Child B – 'Finally'. You use 'finally' for the end one. If it's your end one, you use 'finally'.

Child A – 'Finally', yeah, it's the 'finally' one.

Arthur – Me too. I'm doing 'finally' for the end one. (Looking at Child A's work, which had large full-stops on, Arthur goes back and puts dots on each line of writing.)

Arthur - (to child B) Have you done full-stops?

Child B- Yeah (holds up writing)

Arthur – Me too look (Holds up writing).

From this excerpt, during the same lesson, Arthur freely uses other children to support his own writing. He directly asks others for help and also uses their work as a model for his own, using another child's full stops, to prompt the inclusion of full stops in his own writing.

From these excerpts notable differences were seen in relation to the children's opportunity to use each other as a source of support for their activity within each of the different ability groups. In considering this in relation to Vygotskian (1978) perspectives on the role of 'more experienced other' in mediating development, by restricting the 'more able other' solely to the adult within the activity, the children from the 'low ability' group were given less opportunity to play a role in negotiating and meeting their own learning needs. By the adult setting the parameters of the space between the child's independent capability and the support needed to progress further, she is potentially limiting the scope of his activity. Whereas, the freedom within the middle group, enabled Arthur to determine, and meet, his own support for his learning.

In addition, with consideration of the assessment practices at the school, the adult's restriction of the low ability group's use of each other as a source of support for their activity, prevented them from evidencing their understanding. For the purposes of assessing children's individual competence, activities completed with adult support are less valid than work completed independently, whereas, Arthur's use of another child's writing to prompt his own use of full stops, allows him to express understanding suitably for assessing him as 'showing understanding of how full stops are used'. The adult control over David and Bobby, however, potentially prevents them from expressing any understanding beyond that which is considered relevant by the TA, for the completion of the assigned task. By taking control of the writing, and using herself as a model for the writing, she undermines opportunities for them to be assessed as working beyond the level that they are deemed to be currently working at.

This may, in part, account for the negative relationship between the amount of support and the children's academic progress outlined by Blatchford et al. (2011). As attainment is determined by the skills and capabilities exhibited by individual children in relation to the criteria outlined within the assessment documentation, if children are not given opportunity to express their understanding then they are not able to exhibit the behaviour and activity that would enable their progression through the attainment criteria. Consequently, the TA's focus on task completion, potentially, was constraining the attainment level that her presence was intended to improve.

In addition to the relative freedom within the middle ability group, for using each other to support their activity, there were also differences in the freedom for engaging in non-task related conversation experienced by each of the ability groups. This was particularly notable by contrasting the interaction between the children within the 'high ability' group, from the interaction within the 'low ability' group.

Example interaction during Literacy lesson, with 'high ability' group, working independently (Appendix XX) (This excerpt is towards the middle of the group activity).

Children are seated around a table, they each have their own Literacy book as well as phoneme cards and pencils.

Christopher – Did you do a bean or a sunflower?

Child C – Sunflower.

Christopher – I did a sunflower, I've done one before. I've got a picture from when I was a baby standing next to a massive one. It's taller than my dad, about up to the ceiling here.

Child D – I did a bean. I've done a sunflower before, it was so tall.

Lilly – I did a bean. Which one is yours? (Looks to group of seed pots).

Child D – (Gets up and gets seed pot) It's not growing yet, I've got zig-zags on my name though. (Goes to put seed back). Which one's yours?

Lilly – (Pointing) It is the one at the front. I drew Jack from Jack and the beanstalk on it (laughs).

Child D – (Laughs) That's clever. I don't think mine will grow. We did cress in class 1. Mine was the worst one.

Christopher – I remember that (laughs), it was hair for the face but my eyes kept falling off. (Laughs).

One of the main differences between the experiences of each of the different ability groups within this example of class activity, was the consequences of the adult's control of the activity on the 'low ability' group, in relation to the relative freedom experienced by the other groups. This was particularly apparent in relation to their engagement in non-task-related discussion.

In considering exposure to, and participation in, particular linguistic activity as a catalyst for developing dialogic conventions, as well as for interpretation and negotiation of meaning, then the type of talk and the use of language experienced by the children within class has an impact upon their individual development (Mercer, 2008). For example, within the discussion by the 'high ability' group, the children have opportunity to use language for different social purposes. They refer back to previous shared experiences, and they explain their individual experiences and activity. Whereas, any discussion amongst the 'low ability' children that was deemed to not be focused upon the relevant task, was stopped, or re-directed, by an adult. Although, I am not suggesting that all non-task-related conversation is therefore unequivocally beneficial, from the example of the 'high ability' group within this task, there are examples of language use which may have specific benefits for participation in school, which was restricted for the 'low ability' group. Firstly, is the opportunity for engaging in exploratory language use; the children use questions and explanations to refer to previous shared and individual experiences. Whilst no longer a primary focus of the research, in taking

the argument that the use of language for explicit explanations and interrogations provide both opportunity for 'more accurate' understanding, or greater shared meaning, then opportunity to both experience and participate in this form of dialogue, potentially benefits future participation and shared understanding (Mercer, 2000). In addition, in relation to the assessment practices used by the school, exposure to, and experience of, exploratory talk offers access to the linguistic forms that enable individual understanding to be expressed in ways recognised within the school. Furthermore, within this example the children were increasing their familiarity of each other, engaging in conversation for developing social relationships, and potentially increasing understanding upon which future meaning can be interpreted and negotiated with increasing precision through familiarity. Vygotsky's (1978) discussion on familiarity for developing shared understanding, emphasised that the greater familiarity with their partners, the greater the potential for establishing and maintaining shared meaning within their dialogues. In addition, from Wertsch's (1985) discussion on abbreviation, the greater the abbreviation, the greater the cognitive challenge for interpreting meaning (Wertsch, 1985).

An additional facet to the interactions within each of the ability groups was the differing degrees of learner agency, exhibited and developed within the activities. Definitions of learner agency place varying emphases upon conceptions of individual autonomy and the social context in which it is enacted. Explanations of one conception of agency focus on an individual's control over their activity (Blair, 2009), or as an individual's motivation or capacity to act (Mercer, 2011). Whereas alternative depictions of learner agency emphasise the contextual influences upon individual action (Tookey & Norton, 2003; Lantolf & Thorne, 2006; Lier, 2008). Lier (2008) explains that *"agency is not simply an individual character trait or*

activity, but a contextually enacted way of being in the world" (Lier, 2008, p. 1). Lier (2008) extends the definition by proposing three core features of agency in the classroom.

- 1) Agency involves initiative or self-regulation by the learner (or group)
- 2) Agency is interdependent, that is, it mediates and is mediated by the socio-cultural context
- 3) Agency includes an awareness of the responsibility for one's own actions vis-à-vis the environment, including affected others.

(Lier, 2008, p. 4)

From this explanation, the examples of observed interaction within the ability groups (Appendix VIII-XX), show differing degrees of autonomy and self-regulation. The high ability group were self-regulating their discussion, by individuals and by the group, determining the focus and the progression of their own dialogue and task completion. The children in both the high ability and middle ability groups were afforded a degree of trust and responsibility, to accomplish their given tasks without direct adult control. The control over their activity was less overt, although adult control was still a feature of their activity, whereas restriction imposed by adult involvement in the low ability group, where conversation was task-focussed and dominated by the adult, minimised the children's own control and projected capacity for responsibility.

Although, again, not suggesting that this reflects solely upon the individual TA, as discussed previously, it is as much a reflection of her training, wider practice and wider pedagogical messages, as it is about her individual skills. Each of these are particularly based on the assumption that increased adult attention instigates improved performance from the children; an assumption which, as discussed, was also queried within the DISS Project (Blatchford, et al. 2009a; Blatchford, et al. 2009b). Although her approach to supporting the

children reflects wider beliefs, assumptions and practices, in comparing the different experiences of the children within the activities, there were potential consequences of the adult's interactions on the children's future activity, and understanding of the participatory procedures.

Whereas learner agency involves some degree of engagement and active participation, passivity is associated with decreased control. Passive learning has been attributed to knowledge transfer approaches to learning (Michel et al., 2009) and following procedures for the completion of simple tasks (Bonwell & Sutherland, 1996).

Adult control of the 'low ability' group meant that the children were directed by the adult's perception of acceptable or unacceptable practices. In viewing the example of this TA's view of 'acceptable' sources of learning, it is evident that she had a different view of a child 'copying' another child, than of a child 'copying' a model of writing from an adult. The adult's perception of her role in structuring David's progress, in comparison to her restriction of Bobby's use of David to structure his own progress adds an additional layer to the factors that are influencing and mediating the different children's activity, and the consequences of this for their participation in school. By projecting her idea that adults, in this case her, are valid sources of support, or valid models for imitation, whereas other children are not, she is assigning roles based on narrow conceptions of valid sources of support. Similarly, by maintaining control over the activity she is requiring the children to 'follow' her thinking, by providing limited questions and responses to direct the children in one, her, direction. She is essentially further projecting her ideas about the passivity of learning and learners. For these children, in this instance, therefore, their individual agency is restricted, potentially structuring their own view of their roles and understanding of what participation entails.

In addition, her focus on the product of the activity, evidenced by her recording the sentence for David to copy, as opposed to the processes involved in forming and recording his ideas, conveyed an emphasis upon performance. From Dweck's (1986) 'Achievement Goal Theory', emphasis upon performance, reflects a view of intellect as fixed, entity theory, in which evidencing ability is prioritised over developing capability. This focus on the product of the activity was not, however, only restricted to the evidencing of the children's ability. The focus upon the end product of the activity, rather than the processes involved in getting there, was also possibly accounted for by the TA's desire to project her own competence, by completing the task in accordance with the planned outcome, but in so doing she bypassed the processes intended to achieve the goal. Rubie-Davies et al. (2010) also assert that their research found that TAs were task focussed. In comparing teacher-talk to TA-talk with pupils, they analysed classroom dialogue and explored features of the differing interactions between TAs and teachers with the children.

...the current study showed teachers far more often than TAs promoting pupil engagement and encouraging pupils to develop their own ideas. TAs, on the other hand, focused more often on task completion rather than promoting higher levels of pupil thinking.

(Rubie-Davies et al., 2010, p. 443)

As Rubie-Davies et al. (2010) point out, their analysis did not extend to the wider contextual influences with which to explore the explanations for the observed differences. However, they cite research findings from Blatchford et al. (2009b) and apply aspects of the 'Wider Pedagogical Role' (WPR) model to possibly account for the differences. Citing 'preparedness'

and 'deployment' as two aspects of the WPR model which may account for the differing interactions between TAs and children to teachers and children.

Whilst not disputing the influence of 'preparedness', both in terms of training and in terms of opportunity for day-to-day interactions with teachers to prepare for individual lessons. Nor disputing the impact of TA 'deployment' for accounting for a limiting, task completion, focus. Each outlined within the WPR model proposed and developed within the DISS project (Blatchford, et al. 2009a; Blatchford, et al. 2009b; Webster et al., 2011) and each proposed as a possible explanation for Rubie-Davies et al. (2010) findings. Considering the multilevel focus on children's *performance* within the environment in which my research took place, it is also possible to contribute a further explanation for the apparent, limiting, interactions between TAs and children.

By considering the wider contextual influences within the school in which my research took place, I suggest that TAs' belief that their performance is judged upon the children's performance, through their adequate task completion, may also have influenced their focus and the strategies employed to achieve their goal. Within the school, the children's performance played a significant role in evaluating competence; evidenced through consideration of the assessment practices, the conceptions of 'good practice' within TA led intervention activities, the use of children's assessment levels as a measure of teacher effectiveness, the use of children's assessment levels as a measure of school effectiveness and the apparent conceptions of TA 'good practice' within the school. It would be possible to suggest that TAs perceived that their performance is also measured by the task outcome of the children that they are assigned to be supporting. Subsequently, it may be logical to conclude that if TAs consider that their performance is measured according to the children's

completion of tasks, then assisting them to complete the tasks, by whatever means necessary, evidences their own competence. However, this task completion focus, as Rubie-Davies et al. (2010) found, limits the opportunity for the dialogic exchanges which may promote higher level thinking.

An additional explanation may also be found within the conceptions of 'ability' within the school. Plak et al. (2001) suggest that differing implicit theories create differing 'meaning systems' with which to perceive and evaluate experiences. They suggest that entity theorists, who view human attributes as fixed, tend to focus on stereo-type confirming traits, whereas incremental theorists, who view human attributes as malleable, tend to focus on stereo-type disconfirming traits (Plaks et al., 2001). As discussed previously, comments made by TAs within the school, tended to attribute blame for low ability on 'an innate incapacity for learning', 'a disruptive/chaotic home life' or 'laziness' (Appendix XV). The comments implied a lack of power for the school to over-ride the wider influences upon the children's school ability. These misconceptions may influence the TA interactions with different children, by stereo-typing individuals and constructing differing assumptions about the requisite interactions during school activity. This suggests that the tendency for 'lack of quality' interactions between TAs and children, seen by Rubie-Davies et al. (2010) may not be evenly distributed across interactions with all children.

INTERACTION OF SAME ADULT WITH DIFFERENT CHILDREN WITHIN HIGH AND LOW ABILITY GROUPS

Transcripts of a TA working with different groups on Numeracy activities provide further examples of differences in the interaction with 'high ability' and 'low ability' children, by the same TA (Mary) (Appendix XXI). These excerpts show a different TA to the previous example,

but reflect a similar conception of the type of behaviour and activity needed to support low ability children. By contrasting this TA's behaviour towards high ability and low ability children, it appears that her reliance upon instructions and directives for the low ability children is not merely a reflection of her understanding about how children per se, should be supported to learn. The differences between her interactions with children deemed to be high ability to those deemed to be low ability suggest that these labels impact upon the type of interactions that they experienced and the 'quality' of the support that they received.

The 'self-fulfilling' potential of differing teacher expectations of individuals has been widely explored since the seminal work of Rosenthal & Jacobson, (1968) in which high expectations of children's intellectual development were reported to have manifested in actual examples of increased intellectual development . Within the body of literature that resulted from this work, studies have explored the contextual influences of ability grouping on teacher expectations (Eder, 1981), traits which contribute to teachers' expectations of streamed students at whole class level (Rubie-Davies, 2010) and teachers' perceptions of children's 'teachability' (Agirdag et al., 2013). These works have each attributed teacher expectation to students' outcomes in terms of a self-fulfilling prophecy, however, with the increased use of support staff as teachers in schools, little attention has been paid to the implications of widely differing expectations and assumptions about individuals' potential that result from the pedagogical roles of staff with little or no training.

Within the following two examples of class activity, the TA appears to demonstrate a different approach to her support of activities for children from different ability groups. In the first example, with the 'low ability' group, the TA uses instructions and directions to organise and direct the children's activity. She exerts control over the activity structuring the children's

participation according to their compliance to her rules and actions. In contrast to this, within the second example, when interacting with a child from the 'high ability' group, the TA guides the child's activity, allowing her to explore her own process for tackling the activity. The TA engages in, and encourages, greater exploration, when supporting Lilly than with Bobby. Whereas, when talking to Bobby, she corrects him and gives him direct instructions.

Transcript of interaction by TA with 'low ability' group (Appendix XXI).

Activity – Children are in the outside area of the classroom, they have large number tiles 1-20, a large whiteboard and writing markers. The children have been learning about 'counting on' from a number to find complete addition number sentences.

TA – So, we've got to do 6 add 4. Stop jumping. Stand still. Are you listening? Right, thank you. Are you looking David? Right, 6 add 4 equals (writes addition sentence on whiteboard).

David – 8.

TA – No, wait, we've got to jump along the line. Who's going first?

All – Me/I will/can I?

TA – Right, Bobby. Start at 6. Go to number 6. (Bobby stands on the number 6 tile) How many jumps are you going to do?

Bobby – 6.

TA – No, you've got to work out 6 add 4. So you start at 6 and jump on 4.

Bobby – (Starts to jump).

TA – Wait a minute, go back to 6. (Turns to group) What number do you think that Bobby will end on?

Child A – 10.

TA – 10, you think, well let's see. Go on then Bobby, 4 jumps. 1...2...3...4 What number are you on?

Bobby – 10

TA – 10. You are right. Bobby, come and write it on the board. (Turns to group) How is Bobby going to write it?

David – a 1 and a 0.

TA – Well done, now whose turn next?

Considering this in relation to the same TA's discussion with Lilly on a similar topic.

Transcript of interaction by TA with 'high ability' group (Appendix XXI).

Activity – Children are sat around tables within the classroom. They have small number lines (1-100), Maths questions written on cards, their own Numeracy books, pencils and whiteboard markers. The children have been learning about 'counting on' from a number to find complete addition number sentences.

TA – Are you ok? Are you stuck?

Lilly – I don't know. I think so. I'm not sure.

TA – What's the problem?

Lilly – I keep getting to 62 but it's not right.

TA – How do you know that it's not right?

Lilly – Because they said that its 67 (pointing to rest of group)

TA – Ok, let me look. Which one are you on? This one? (pointing to a written number sentence).

Lilly – Yes.

TA – Ok, so how did you work out the other ones?

Lilly – Um, I jumped in tens.

TA – Ok, so for this one (pointing to previous addition sentence) tell me how you worked it out.

Lilly – I started at 14 and then drew the jumps, then I landed on 34. Then I had to jump 2 more, so I got to 36.

TA – Right, so you had to split the number into tens and units?

Lilly – Yes.

TA – So for this one (pointing to a number sentence) how many tens and how many units?

Lilly – 2 tens and 5 units. Oh. (pause) I don't think that I added the last bit.

TA – The units? Well try it and see. Where do you have to jump from?

Lilly – 42 (draws groups of 10 jumps on number line). That's 62, then 5 more.

TA – is?

Lilly – 67.

TA – Is that what they thought?

Lilly – Yes. (smiles).

TA – Do you get it now? Do you want to do another one?

Lilly – I'm ok. I think I get it. (smiles).

TA – Well done, you're very good at your Maths work, let me know if you need me anymore.

Within the first example, the TA corrected Bobby's incorrect answer without any further interrogation of his thinking or how he arrived at the number that he said. Whereas, within the discussion with Lilly, the TA posed questions that required Lilly to explore the processes that she had gone through and encouraged her to explore the outcome of her processes for herself.

Although, intertwined with this TA's previous experience of activity with these different children, the basis upon which she is mediating these activities differently, may be, in part, based upon different expectations of the different children's capability in participating in reasoned discussion. I am not suggesting that this TA's approach to these children was solely a consequence of other people's conception of ability, nor am I suggesting that these differences were conscious or deliberate. However, in assuming a self-fulfilling stance with which to view these differences, then it could be argued that the consequences of this TA's differing views of the children's capacity to be guided rather than instructed, create their own perception of the skills required for participation in school activity. The adult's interaction with the children that they perceive to be least capable, potentially causes the children to believe that they are less capable. Furthermore, the TA uses direct reference to Lilly's capability 'You are very good at your maths work', assigning a particular skill to her identity.

The consequences of this adult's views of learning and learners, has a potential influence on the children's developing understanding of learning and the appropriate behaviour required

for participation in class activity. However, the adult's views and understanding were not developed in isolation from other community members. Her approach to the children's activity was, influenced by wider conceptions of ability, views on learning and notions of 'appropriate' activity. As outlined within the initial context description, attitudes to 'ability' within the school reflected views which placed ability along a continuum of deficiency and proficiency. Lack of training, meant that the TAs' sources of information about conceptions of teaching and learning, as well as individual's capacity or incapacity for learning evolved from evidence from wider community beliefs and practices. As discussed previously, much of the discussion relating to children's ability and their individual capacities for school achievement reflected a fixed ability, entity, theory (Dweck et al., 1995). In addition, Plaks et al. (2001) discuss the role of these differing assumptions about intellect and intellectual capacity as either fixed, entity theory, or malleable, incremental theory, and suggest that they lead to differing meaning systems with which to interpret their experiences. *"people with different starting assumptions perceive the world through different lenses that lead them to assign different meanings to the same event"* (Plaks et al., 2001, p. 889). They argue that the different implicit theories lead to different orientation toward stereo-type confirming traits or stereo-type dis-confirming traits, asserting that *"entity theorists exhibited greater attentional engagement with stereotype- confirming information...Incremental theorists exhibited either no preference or a preference for stereotype-disconfirming information"* (Plaks et al., 2001, p. 889). The belief in children's abilities as fixed, either through the TA's own prior perspective, or as a socialized belief through participation with wider school perspectives, potentially has implications for reinforcing stereo-types about specific groups. This reinforcement might occur either through positive stereo-typing of high ability groups, or negative stereo-typing of low ability groups. However, Levy et al. (1998) suggest that the meaning systems upon

which trait-orientation towards stereo-type maintenance depends can be challenged, reduced or altered with exposure to alternative, incremental, theories.

In considering Bruner's discussion of how a 'folk pedagogy' emerging from, and projecting, conceptions of learning and learners, directs practice, then a continual reciprocity occurs between beliefs and activity as a consequence of the starting assumptions about individuals and their capabilities (Porath & Bruner, 2000). Furthermore, the grouping of the children by 'ability' illustrates the sanctioning of specific practices within the school which may reinforce existing misconceptions and further influence the TAs' beliefs and understanding of expected and appropriate behaviour. Another medium for this is the intervention programmes advocated by the school. Reflecting Gibson and Patrick's (2008) assertion that centrally produced, and promoted, teaching programmes "*serve as a conduit for a centrally contrived pedagogy*" (Gibson & Patrick, 2008, p. 25), the hierarchy advocating specific practices and the lack of any opportunity for theoretical and pedagogical dialogue, the TAs had neither the authority, nor the experience to query the projected assumptions.

INTERACTION WITHIN INTERVENTION GROUP

In addition to conceptions of ability impacting upon the children's school experiences, as well as the type of interaction that adults used to mediate activity within different ability groups. The intervention groups designed to facilitate accelerated learning for groups deemed to be vulnerable to underachievement, offered a further comparison between the children's experiences of school activity.

During afternoon activities, the majority of the class participated in a range of activities, some focussed structured activity determined and directed by the teacher for specific curriculum learning purposes, and some 'free choice' activities in which the children had a degree of control over their own activity. Although these 'free-choice' activities were still structured broadly by the teacher and the school, in terms of the resources available, rules and the behavioural expectations, the children had a degree of personal input into the type of activity and the peers that they chose to interact with. However, the 'low ability' children were involved in additional 'intervention groups' during this time, consequently, they were often excluded from 'free choice' activity, and the learning opportunities that may have occurred as a result. This part of the analysis, therefore, aimed to compare and explore the differing experiences within these different approaches to the children's activity, to explore the children's differing experiences and illustrate the interplay from wider mediating factors on the children's activity.

For this part of the discussion, I use one example of the group activity in the intervention activities (Appendix XXII) and explore elements which were mediating the activity, but not necessarily visible within the observed activity. In addition, I contrast the 'low ability' children's experiences of afternoon activity within the intervention groups, to the other children's experiences of afternoon activity within class, to explore the consequences of differing pedagogical approaches to school activity. This provides opportunity to explore some of the influences upon the children's activity and position it within wider cultural constructs. In addition it provides a means of exposing some of the main priorities that affected these children's experiences in school.

Although the head teacher is not physically present within the observed activity, her role in structuring the activity is still a significant influence, along with the TA and the children. The

imbalanced, hierarchical institutional inequalities of control over the activity, aren't apparent without consideration of the head teacher's influence on the activity. As discussed within the context description, the head teacher's motive to raise the attainment of the 'low ability' children determined the children to be included and set the boundaries and procedures for the TA, by determining the appropriate strategy as the implementation of a specific intervention programme. This, in turn, determined the activity of both the TA and the children. In addition, the head teacher's conception of good practice mediated the TA's activity within the group, as well as the rules which were governing it. As outlined within the reviewed literature into the use of intervention programmes, their use for supporting development is emphasised as being heavily dependent upon the training of the TAs set to *deliver* them (Gibson & Patrick, 2008; Ofsted, 2009; Webster et al., 2011). A significant feature of which was the TA's feelings of confidence in adapting the programmes to meet the needs of their group. This was something that was actively discouraged by the head teacher in this context, as rigid progression through the 'script' was emphasised as appropriate practice. Rigid progression through the programme, irrespective of the children's existing skills, decreased the influence of the children upon the activity, minimising their agency within the activity and reducing their influence to their behavioural or procedural impact.

From example of intervention group activity – (Appendix XXII)

TA – (holding learning objective) This is what we are going to be learning today. We are going to learn what these symbols mean.

Bobby – That one is add. That's the add sign. (Bobby stands up and points to the add/plus symbol on the objective.)

TA – Sshh, wait a moment. It is listening time first Bobby. Sit down.

David – Add and equals. That one is add.

TA – sshh shush. Let's let everybody listen first. So...We are going to be learning what these symbols mean. We have the add/plus sign and the equals sign. We are going to be learning about adding up and using these signs today.

Bobby already understood the content of the intended learning, from the outset he had demonstrated that he already 'had the knowledge' that the TA was tasked with teaching, as did David. However, with the rigidity of the intervention activity, no opportunity to explore or develop their understanding further was able to be exploited. This was particularly apparent by the end of the activity.

From example of intervention group activity – (Appendix XXII)

TA – Right. Let's look at some questions and see what we have learned. (Holds up question written on paper and reads it) Are you looking? Let's see who can put their hand up and answer the question. Let's see who's been a good learner. You ready? ... What does this symbol mean? (Points to + sign).

Bobby – (Puts his hand up) – I know.

TA – Ok Bobby what do you think?

Bobby- it means add.

TA -What do the rest of you think? Is Bobby right?

All – Yes.

TA – Next question. Are you ready? (Holds up the next written question) ...What does this symbol mean? (Points to = sign).

(All put hand up)

TA – *Child's name* What do you think?

Child C – Equals.

Although the children had been participating in the activity, by the end of the session the 'what have we learned' was directly evident as already known at the start. The rigidity of the structure of the programme, and the conception of good practice as 'sticking to the script',

neglected opportunities to negotiate the learning within the activity. For the progression of the activity, the children's existing knowledge, skills and understanding were largely irrelevant within this activity. The inflexibility of the intervention programme, and the methods advocated for effective delivery of it, restricted the children's participation by minimising it to a didactic, instruction following exercise. In order for the children to participate with the activity and be 'successful' they were required to 'sit nicely', answer questions with appropriate response at an appropriate time, and 'learn' what they were told they were supposed to learn. Furthermore, the questions that were posed were recalling past events, each requiring only simple 'right' answers, again reflecting that passivity is a requirement for appropriate school learning for some children.

Considering this in relation to the 'messages' that it contains in relation to the learning process and the passivity of the learners required for appropriate instruction. Participation, in this activity, required conformity, compliance and interpretation of appropriate responses to limited questions. Within the intervention group, the focus on the delivery of the content appeared to result in the purpose of the programme being lost. Rather than developing the children's understanding of the curriculum content, the focus was on rehearsing their conformity to the delivery practices. This echoes research by Tobbell and O'Donnell (2014) who suggest that changes to the context of activity can lead to procedural uncertainty which can move students *"from a position of confidence, to a position of hesitancy"* (Tobbell & O'Donnell, 2014, p. 1).

Although the consequences of this activity in engendering passivity by prioritising conformity did not come from the individual priorities of the TA, the structure of the intervention programme and the head teacher's influence on the activity, were significant influences on

how the children experienced the activity. In addition, it must also be said, that the head teacher was not acting in isolation, her priorities and conception of appropriate strategies for achieving her goal were mediated by wider cultural priorities, practices and procedures. The rigidity of the activity, and the rigid structure of control, established the experiences of the children. The head teacher directed the TA who directed the children to perform prescribed tasks, and directed the expectation for the children to conform to behavioural expectations to learn specified skills within specific time frames.

In contrast to the rigidity imposed on the 'low ability' children within the intervention activities, the children within the rest of the class were able to engage in 'free-choice' activities. Despite the label, it must be said that these activities were only 'free-choice' in that the children had some degree of autonomy over their choice of activity from those provided, so 'restricted choice' or 'limited choice' may have been more descriptive terms. Considering the intervention activity example in relation to the 'free-choice' activity (Appendix XXIII) the negotiability of the activity, within both defined and negotiated parameters offers a different experience of school activity to members of the other 'ability' groups.

Example of Arthur and Christopher negotiating the rules for the activity (Appendix XXIII)

Arthur- Can we play.

Christopher – After this go, we're still scoring. When we get to the end of this score. Ok?

Arthur – Ok. (Another child with Arthur goes off to play something else. Arthur waits and watches).

Christopher – You put them back up when we roll. Ok?

Later within the same activity...

Christopher – (rolls ball) 1,2,3, so it is 6. I got 6. (Writes score on board and puts skittles back up.)

Arthur – (rolls ball) 4 and 5. 4 add 5 equals...

Christopher – No. They're back ones. They are both back ones, so they are doubled. Do you want to double the back ones. Or just add the score.

Arthur – Um, double them.

Christopher - Double the back ones. Double these ones, but not the front ones. So 4,5,6 we double them. But 1,2,3 we don't. Yes?

Arthur – Yep, ok. So...

From the example (Appendix XXIII) opportunities arose for the children to negotiate the conditions of their activity. The class teacher still had control over the parameters of the activity, mediated by wider conceptions of appropriate activity, behavioural conventions and available resources. However, within the activity itself, Christopher and Arthur had opportunity to set their own rules and determine the direction and boundaries of their own activity. Parts of their activity were mediated directly by adult involvement, however they also had opportunity to negotiate their own activity and mediate each other's participation. The development of the game was, however, dependent upon the individual skills of the adult for identifying appropriate and relevant mediation for the children, this, in turn, was dependent upon the skills and knowledge of the children, as well as the adult's perceptions of the children's existing skills.

As discussed previously, a facet of learner agency is self-regulation. Whitebread et al. (2009) argue that play activities facilitate the development of the self-regulation and meta-cognition required for academic success through the effortful problem solving and creativity experienced in the maintenance of play scenarios. Furthermore, Pellegrini et al. (2004) also point out that the children's opportunities to regulate their own activities are diminishing as a consequence of changing patterns of childhood freedoms, both within and outside of school. In addition Goncu (1993) investigated the evidence of Intersubjectivity within

children's social pretend play and concluded that 'adoption of a shared pretend focus for interaction', 'metacommunication to define the activity as pretend play', and 'communication within pretend play', act to both exhibit and develop intersubjectivity within play (Göncü, 1993, p. 185). Intersubjectivity, as discussed previously, is a central component for the development of shared meaning, and learning.

Within the observed free-choice activity, the adult's support of Arthur, facilitated his participation within the game, without reflecting a negative view of his competence. The adult intervened when she considered that Christopher's fast explanation was insufficient for supporting Arthur, but the support provided aimed to investigate Arthur's existing understanding before providing the questions to guide him through the steps that Christopher had outlined.

Example of adult supporting Arthur to continue to participate within the game (Appendix XXIII).

Christopher – (rolls ball) 1,2,3, so it is 6. I got 6. (writes score on board and puts skittles back up.)

Arthur – (rolls ball) 4 and 5. 4 add 5 equals...

Christopher – No. They're back ones. They are both back ones, so they are doubled. Do you want to double the back ones. Or just add the score.

Arthur – Um, double them.

Christopher - Double the back ones. Double these ones, but not the front ones. So 4,5,6 we double them. But 1,2,3 we don't. Yes?

Arthur – Yep, ok. So...

Christopher – So, you can do double 4 and then double 5, or add them together and then double that. It is 18 though.

Adult – Hang on Christopher, let's check that. Arthur, can you check the score? What skittles did you put down?

Arthur – 4 and 5. it is 18.

Adult – How is it 18?

Arthur – Coz...it is doubled.

Adult – Explain to me how to double the score. How did you get to 18?

Arthur- (looks at hands and starts counting fingers). Um (looks at adult)

Adult – So you got 4 and 5. What is 4 add on 5 more (shows '4' fingers and '5' fingers)

Arthur – (counts adults fingers) – 1,2,3,4...5,6,7,8,9. 9.

Adult – So 4 add 5 is 9.

Christopher- but we are doubling it. So it is 18.

Adult – So Arthur, what is doubling? What does doubling mean?

Arthur – It is adding...It is when you like...add.

Adult – Adding? So is 4 add 5 doubling?

Arthur – No. It is the same. So 1 add 1, 2 add another 2.

Christopher – Yes it is when you add the same again, so double 2 is 4, double 4 is 8, double 10 is 20, double 100 is 200, double 1000 is 2000. So you add the same number twice.

Adult – Ok, so Arthur, if we want to double your score, if we want to double 9. We need to say 9 add on 9 more. Do you want to borrow my fingers? (holds up 9 fingers) so my 9 add on your 9, show me your 9. (Arthur counts his 9 fingers) now add together.

Arthur -(counts all fingers) 1,2,3,4,5,6,7,8,9,1

Adult – No, it isn't back to 1 is it? What comes after 9?

Arthur – doh. I forgot. 1,2,3,4,5,6,7,8,9...10,11,12,13,14,15,16,17,18.

Adult – 18. So what is double 9?

Arthur – 18.

Adult – (cheers) Yeah!

This then, appears to provide a model for Christopher, which enables him to further support Arthur's participation within the game.

Christopher – Double the 4 and the 5, so its 8 and 10...18 and then 6 so it is...20...24. I got 24.

Arthur – I'll write 24. 2 and a 4.

Christopher – No, you have to add it. Add it to the last one. 24 add 6. So write 30.

Arthur – 1 and a 3?

Christopher – No 3 and a zero. (writes it in the air.)

Arthur – You're on 30, I'm on 18. (Rolls ball).

Christopher – 6. so it is double 6. Do you know what double 6 is?

Arthur – Yeah, it is (holds up 10 fingers), um, it is (counts out 6 fingers.)

Christopher – It is 6 add 6. Do you want my fingers?

Arthur – Yeah.

Christopher – Count them, your 6 and my 6.

Arthur – 1,2,3,4,5,6...(pauses)

Christopher – 7

Arthur – 7,8,9,10,11,12. 12. I got 12.

Christopher – 12. add that to your 18. Do you know how to? Do you want me to? It is 30. You are on 30 too. We are on the same score.

Arthur – We are drawn. We are drawing. We are the same. (writes 30 on scoreboard, but transposes 3).

Although, I am not suggesting that all 'desirable' learning in school would emerge from such interaction, in comparing the experiences of the 'low ability' children within the intervention activity to the 'higher ability' children within free choice activity, the learning opportunities afforded to each group were based on, and potentially perpetuated, different degrees of learner agency. The intervention activities promoted passivity and compliance, whereas the free-choice activities facilitated self-regulation and negotiation. In the 'free choice' activity, the constraints placed upon the children's activity were negotiable between the children, through dialogue, within the parameters of 'acceptable' behaviour. The activity provided a context within which the children could apply and develop their mathematical experiences. Whereas, in the intervention activities, restraint was imposed upon the children's dialogue and the adult controlled the children's discussion and interaction, the focus was on reifying individual constituent skills, removing specific skills from any 'real world' context and practising them as separate, detached, skills.

In considering the differing messages that are conveyed through these different activities, the intervention activity projects a view of learning and learners as passive, in that participation requires conformity. Whereas in the class activities, participation, within this game, involved negotiated interaction. In addition, the motivation for participation within the class activities were based on enjoyment, or competition within a game, whereas the purpose of the intervention activities prioritised learning, for the benefit of 'learning'.

PARTICIPATION IN NON-TASK RELATED CONVERSATION

One further dimension in comparing the classroom activity and the intervention group, would again be the opportunities for non-task related talk, available to the 'middle' and 'high' ability children, but restricted for the 'low ability' group. An example of non-task related discussion between Arthur and the teacher, during an afternoon in class, outlines some of the experiences of dialogue that were available to different groups (Appendix XXIV).

Example of non-task related conversation in class between adult and Arthur – (Before focussed activity)

Arthur has come in from outside to complete a curriculum activity with the teacher, the other children for the group are assembling.

Arthur – We played Star Wars. Have you seen Star Wars?

Adult – I have, but a very long time ago.

Arthur – I've got the game of Star Wars, I have.

Adult – What sort of game.

Arthur – A Star Wars game.

Adult – No, I mean is it a board game? A computer game?

Arthur – Yeah, on the ipad.

Adult – Oh, is it the Lego Star Wars one? I think I've seen that?

Arthur – No, I think. Does that have Pigs? It is Angry Birds. Have you seen an Angry Birds one with pigs?

Adult – Angry Birds? I think I've heard of that, but I didn't know that there was a Star Wars one. What do you have to do?

Arthur -You have light sabres and there's pigs.

Adult – That sounds fun. I'll have to look for it. Is it fun?

Arthur – Yeah. I'll bring it in. Do you want me to bring my one in for you?

Adult – Oh, that's very kind, but I wouldn't want you to break it. I don't think you're allowed to bring ipads to school either are you?

Arthur – No. I play it at home I do. I'm going to play it today, when I get home.

Adult – Sounds fun. Let's crack on then.

(Starts structured activity)

Although, again, not suggesting that any specific relevant 'school' learning occurred as a direct consequence of the conversation, an aspect of developing specific dialogic conventions would ultimately require some degree of experience of participation within dialogue. Therefore, the topic of the conversation is less relevant than the pattern of the dialogue. Engagement in a conversation which utilises and rehearses questions and explanations, may increase experience of the linguistic conventions to cross boundaries into more school specific interactions. As discussed previously, school assessment procedures require that children are able to exhibit their knowledge, skills and understanding in culturally recognised forms. One way of doing this, as already discussed, is through the language that they use. In taking exploratory talk as a social tool for participation in school activity, then experience of it, and experience of using it, provides a culturally recognised medium for expressing understanding. Given the nature of the intervention groups, the restrictions imposed through conceptions of 'appropriate focus', opportunity for these non-task related conversations was more available to children from the 'higher ability' groups. By limiting the children's opportunity to engage in discussion that was not controlled by the adult, the 'low ability' children were essentially

being denied access to the tools required for participation in school, thus potentially further limiting them to a peripheral position.

ACCESS TO A BROAD CURRICULUM

During afternoon activities, the children within class were also engaging in activities related to other curriculum areas, however access to these activities was restricted for the 'low ability' children by their involvement in the intervention activities. This was also a key factor in the comments made by other staff members in relation to the intervention activities, and their concern over the lack of opportunities for the children to develop skills in areas beyond Literacy and Numeracy. Again, the prioritising of specific curriculum areas is not determined by individuals, as the focus on Literacy and Numeracy levels for evaluating a school's performance is a fundamental motivation for the SLT's preoccupation with Literacy and Numeracy results. The prioritising of specific subjects was also identified by Wiggins and Tymms (2002) as one of the dysfunctional effects of league tables with implications for orientating school from being learning focussed to performance focussed. Boyle and Bragg (2006) also argue that the use of Literacy and Numeracy results as a measurement of educational standards in Primary schools, has significantly narrowed the teaching time spent on other subject areas (Boyle & Bragg, 2006). However, from my research it is apparent that the prioritising of Literacy and Numeracy results as a measure of school performance, has not narrowed the curriculum uniformly for all, but has had a differing impact on different children, in that those whose assessment levels reflect the school favourably do have some opportunities to experience other subject areas and different pedagogical approaches to learning. Whereas, those whose assessed levels reflect unfavourably upon the school, experience an even more narrowed curriculum and activities which prioritise transmission

models of teaching and learning. The consequences of this for enabling the children to experience other subject areas and develop the skills required for future participation in a broader curriculum, is a concern when considered against specific subject trajectories. In assuming a view of learning in which experience of cultural activity facilitates continued participation, then restricting experience of the skills required for participation in individual subject areas, would seem to consequently inhibit future learning within that subject.

REFERRING TO PREVIOUS LEARNING ACROSS SET GROUPS

A further difference in the experiences of school, between the different ability groups, was seen as a consequence of 'set' groups between different classes. Whilst the justification for setting children for their phonics lessons, was based on the belief that it would enable adults to more accurately address the learning needs of the individuals within each group, there were consequences of this practice within the class. This limited opportunity to relate experiences across different contexts, limiting parity between terminologies used, skills practised and strategies advocated within different contexts, and preventing reference to previous activity to connect the abstracted concepts to their purpose within an alternative context for both the 'high ability' and 'low ability' children. From the transcript extract (Appendix XXV) of class activity with a member of the 'middle ability' group, the shared previous experiences of the adult and child, enabled the adult to refer back to previous activity and connect the child's experience to this activity.

Example interaction during a Numeracy activity-children recording the capacity of different vessels. (Appendix XXV)

Arthur - "How do you spell container?"

Adult - "sound it out in....con-tain-er. What sounds can you hear?"

Arthur - " 'c', 'o', 'n' (writes the correct letters) 'con' 't'. What's the next bit?"

Adult - "We looked at 'ay' last week, think about the different ways to represent the 'ay' sound. What might it be?"

Arthur - "'a', 'y'...or... 'a', 'i'?"

Adult - "Well done, it could be a split vowel too, but for con-tain-er, it is 'a', 'i'"

In relation to Wertsch's (2008) perspective on the referencing of previous experiences by abbreviation, to create, and sustain, shared understanding, this intersubjective reference to previous experiences encapsulates the content of the lesson by referring the children back to a specific lesson and guiding them to the recollection of shared points. Whereas, the 'high' and 'low' ability group's phonics activity within other classes, limited this opportunity to connect inter-related experiences through dialogue, between contexts.

This was also apparent as a consequence of the intervention groups. The children who were regularly removed from class to participate in small group intervention activities missed discussions and activities which formed the basis of future activity. Referring back to previous activities acted as a prompt to draw relevant, previously discussed, points. The school's prioritising of Literacy and Numeracy levels restricted the children's participation in other curriculum areas both through their altered timetable, and also through their familiarity with the discussions that referred to learning activities for which they were not present.

THE INFLUENCE OF THE CONTEXT ON THE INDIVIDUAL

This aspect of the discussion considers the experiences of each of the focus children. In considering aspects of their individual histories in relation to their experiences of, previously

explored, examples of school activity, it contemplates their development, both academic and personal. This also includes discussions with children about school (Appendix XXVI).

HIGH ABILITY

During free choice activity, Lilly and Christopher were seen to prefer to engage in 'school approved' activity, generally reading, drawing, writing or completing maths problems. Both often sought adult recognition for their performance and enjoyed showing and explaining their activity. Adult approval and recognition of 'superior' skills, in relation to their peers, appeared to be important to both Christopher and Lilly, demonstrated by examples of them seeking an adult to show their work to, later in the day, if not immediately able to. As well as statements such as "I'm on gold books, but I'm reading a chapter book" or "I worked out the answer using a times sign", all of which had an unspoken sub text of 'aren't I clever?' in which adult recognition of their skills were prioritised. Both Lilly and Christopher sought a metaphorical 'pat on the back' from adults frequently, in recognition of their performance and achievements. In considering this against Dweck's (1986) achievement goal orientation theory, then both Lilly and Christopher appear to be motivated by recognition of their performance. Crucially though, both already had positive perceptions of their own abilities, which Dweck argues is essential for performance orientated children to be motivated to attempt challenges, rather than avoid them.

That is, if the goal is to obtain a favorable judgment of ability, then children need to be certain their ability is high before displaying it for judgment. Otherwise, they will choose tasks that conceal their ability or protect it from negative evaluation.

(Dweck, 1986, p. 1040)

Lilly and Christopher's preference for acknowledgement of their skills appeared to show a 'fit' between the school's requirements for evidencing capability and their need for recognition of their capability. Whilst not necessarily established through their school experience, their motivation for approval of their competence, suited the evidence requirements of the school's assessment procedures. Subsequently they were positioned favourably and, as a consequence of this positioning, they experienced affirmation of their existing confidence in their abilities.

LILLY

As a consequence of her positioning within the class, Lilly experienced opportunity for freedom and self-regulation during class activities. She was trusted to complete given tasks without direct, overt, adult control and afforded opportunity to apply, and extend, her existing understanding with a degree of autonomy. Furthermore, when she did encounter adult support for completing activities, her interaction with adults encouraged her to think through activities herself and connect her experiences.

Lilly experienced positive reflection of her position through overt ordering, both through the grouping practices and the emphasis upon her assessment levels. Within discussion with Lilly, this positivity appeared to also be reflected in her attitude to school. In addition, the ordering of individuals also appears to be significant in her own reflection of her capability, referencing her position in comparison to others within the class and within her group.

Discussion with Lilly about what she likes doing at school (Appendix XXVI).

Adult-What are your favourite things to do at school?

Lilly- I like writing, and handwriting. I do like Maths as well though, but writing is my best thing. I like PE, and playing outside. I like all of it really.

Adult – Do you? That's great. Is there anything that you don't like? About school? Is there anything that you don't like about school?

Lilly – Um, no. I love all of it.

Adult – All of it? Wow. What do you think you are good at, at school?

Lilly – Reading, I'm on the hard books.

Adult – Reading. Anything else?

Lilly – Erm, writing I'm good at writing. I'm not good at Maths, but I am in top group for Maths, but I'm not that good at it. I am good at writing.

Adult – 'Top group'? What does top group mean?

Lilly – It's the hardest group. We do the hardest maths. Not as hard as Christopher, he does really really hard maths. But I'm in that group, with *child's name* she does hard maths too. I think that she is a bit better than me and Christopher is really better than me. I can do some of it. I'm in top group for writing. That means that I do very neat writing, it is joined.

Within this discussion, Lilly justifies her account of her strengths with examples from the ability based hierarchical constructs, 'I'm on the hard books', or 'I'm in top group for writing'. From Wenger's (2008) view of 'identity as negotiated experience', an important element is the interconnection between the outward reflection of an individual within a community, and the inward development of the individual's identity (Wenger, 2008). From Lilly's experiences there appears to be a continual interplay of external and internal positive belief and reinforcement, Lilly is motivated by recognition of her competence, she seeks opportunity to display her competence and receives positive appraisal of her competence, thus enabling her continued motivation for displaying her competence and developing her confidence.

However, Lilly's status potentially also had inhibiting effects upon her developing skills. Mueller and Dweck (1998) offer caution about ability based praise, as success measured by performance attributed to ability has a logical converse that lack of successful performance is a consequence of lack of ability.

Praise for their intelligence, even when it follows a genuine success, teaches children that they can measure how smart they are from how well they do. Therefore, if they subsequently do poorly, children may remeasure their ability from this low performance.

(Mueller & Dweck, 1998, p. 34)

A desire for preservation of a positive reflection of ability, can lead to challenge avoidance in which children's maintenance of their identity requires them to evade activity in which their perceived competence could be questioned (Dweck, 1986). Whilst a school focus on performance, and Lilly's motivation to perform appropriately and exhibit her ability, appear to represent a fit between the context and the individual that possibly accounts for her favourable position within the class. This positioning could also have limited her development, by restricting the activity that she was prepared to undertake, in order to preserve her perceived status.

In addition, she also experienced further limitations as a consequence of her groupings, most notably through the structuring of her social relationships. The practice of ability grouping limited her opportunities to apply her enthusiasm for supporting others, through restricted access to the majority of the class for part of her day. Prioritising Lilly's academic success, potentially, had consequences for her personal and social development.

CHRISTOPHER

Christopher also exhibited enthusiasm for receiving positive adult attention, possibly due to his familiarity with being the focus of adult attention and being used to discussions with

adults. Like Lilly, as a consequence of his positioning within the class Christopher also experienced opportunity for freedom and self-regulation during class activities. He received much positive attention from others about his skills in maths, evidenced by others within his group turning to him for support with activities. In addition, Lilly includes reference to his capability within her discussion of her skills. Furthermore, during a discussion with Christopher about what he likes doing at school, he also refers to his dad's acknowledgment of his mathematical capability.

Discussion with Christopher about what he likes doing at school. (Appendix XXVI)

Adult - What are your favourite things to do at school?

Christopher – football and maths

Adult – What do you like about them?

Christopher – I'm good at scoring goals. We played with the Year 2s and scored loads of goals against them, but they were bigger, we beat them.

Adult – What else do you like?

Christopher – Building.

Adult – Building? Construction with the Lego, or making things with junk and glue.

Christopher – Both.

Adult – Is there anything that you don't like about school?

Christopher – No.

Adult – What do you think you are good at at school?

Christopher – Maths. My dad says I'm a calculator.

Adult – A calculator, well you must be very good at maths to be a calculator.

Within this discussion, Christopher also demonstrates a competitive side. Although talking about football, which is intrinsically competitive, Christopher prioritises winning particularly with reference to the fact that the opponents were older. This seems particularly relevant as Shim et al. (2013) suggest that performance goal learning environments foster competition

and social comparison. In relation to the interplay between internal and external motivation for activity, Christopher's emphasis upon winning, suggests a further 'fit' between him and the school context. If children prioritise competition, and are positioned favourably within a competitive environment they, potentially, have their status and continued motivation enhanced.

An additional dimension to the school activity and conceptions of ability determining the identities of the individuals, was the allocation of levels and targets to the children. Whereas much of the perceptions of ability and the associated consequences on interaction were carried through implicit messages, the specific allocation of the children's levels and the development of targets provided an overt ordering of children according to their perceived competence (Appendix XXVII).

Discussion about assessment levels between 'high ability children' (Appendix XXVII).

Child A – What are you? Are you a 2c?

Christopher – Yes, the writing one.

Child A – We're the same!!

Christopher - Maths is a 2b.

Child A – What is more? Is 2b the best?

Christopher – Best for Maths.

Child A - No coz if I'm a 2c, then you're a better writer.

Christopher – I'm 2c for writing.

Child A – I'm the same. I'm the same as you in writing.

Within this discussion between Christopher and another child reference to their levels were combined with words like 'I am' or 'you are', implying that the children had absorbed an idea that the levels were a reflection of them, as individuals, and that they made up an aspect of

who they were. In addition, Christopher prioritises the idea of his level as the 'best', which appears to be a further reflection of his sense of competitiveness in the classroom. In considering Christopher's experiences against Sfard and Prusak's (2005) narrative identities, Christopher has experienced acknowledgement of his competence from many different sources; from his peers, from his positioning within the class, from adults within the school and from adults within his home, each attributing success to his *ability*. In addition, his reflection of himself as 'best', as well as other's reflection of his superior capability in maths activities, act to construct his view of himself and his view of the activities suitable for his level of competence. However, as discussed in relation to Lilly, this perception of competence also has potentially inhibiting influences upon his activity. Preservation of his identity as *able*, especially in conjunction with his competitiveness and the importance that he ascribes to being 'top', potentially acts to restrict his school activity to exhibiting only the behaviour which maintains this sense of competence. Shim et. al. (2013) assert that performance orientated environments can prevent individuals from seeking support from others, whereas, the perspectives on learning discussed previously, emphasise the role of interaction in supporting individual development. Thus, the environment which prioritises performance, potentially limits the interactions that would actually facilitate increased performance.

MIDDLE ABILITY

Both Penny and Arthur had similar starting points to David and Bobby from the initial assessment data at the beginning of Year One. However, their positioning within the 'middle' group resulted in them experiencing different school activity, most notably, as discussed earlier, was the opportunity for a greater degree of self-regulation within class activities.

PENNY

Despite starting Year One with school assessments placing her as working below the level expected for her age, Penny's end of Year One school assessments judged her to be working within age related expected levels. Penny's initial reticence within class activities appeared to gradually be alleviated with opportunity for Penny to stand back from activities and watch others, before opting to participate. Whilst being the child of a single parent in receipt of benefits, would have entitled Penny to free school meals and as such, she would have featured within the PPF category identified for intervention support to raise attainment, Penny's mother's decision not to complete the forms for free school meals resulted in the freedoms which ultimately may account for her increased assessment levels. As a consequence of not being included within the intervention groups, Penny had opportunity to participate in 'free-choice' activities and this freedom allowed her to watch others and use others as a source of support, during afternoon activities. From the field notes recording classroom activity, Penny was seen to observe others, standing back to watch and later repeating activities that she had observed others doing, gradually becoming more accepting of social contact and play with her peers.

From Wenger's (2008) communities of practice theoretical perspectives, learning within social activity involves both participation and reification. Participation is not only determined by what an individual is actively doing, but also what they are appropriating from their activity. Whilst Penny may, by some, have been observed not participating, her observation of others from the periphery, enabled her to gain greater understanding of the behaviours required for participation. Whilst school assessment of learning and development were, generally, concerned with participatory action, Penny's inaction did not represent a lack of

participation or a lack of participatory appropriation. Her concern for the activity of others and her connection to her observed activity, evidenced by her repetition of other's activity, show her social involvement, albeit detached from active physical involvement. This, potentially, enabled her to reconcile her anxiety and her experience, allowing her to gain understanding of the participatory conditions for activity before actively joining in, or allowing others to join in with her.

Consideration of the benefits, or limitations, of Penny's omission from the intervention activities is only conjecture, as she was not involved in the intervention group, consideration of the implications of this is speculative. Given the preoccupation with the procedural and behavioural expectations, within the intervention groups, there is a possibility that its structure, with a focus on repetition and compliance, may have suited Penny's uncertainty about the expectations of school activity. However, her reticence in communication with adults suggest that imposing greater focussed adult attention on her may have been detrimental and caused her to withdraw further.

Within discussion about what Penny enjoys doing at school, Penny was not particularly communicative with the adult. In addition, from my field notes, it was recorded that her behaviour appeared that she viewed the discussion as more of an interrogation, being preoccupied by 'giving the right answer' and 'getting it over with'.

Discussion with Penny about what she likes doing at school. (Appendix XXVI)

Adult – What are your favourite things to do at school?

Penny – (shrugs)

Adult – Do you like drawing? Playing? Writing?

Penny – Yes.

Adult –Which one? Which do you like best?

Penny – Drawing.

Adult – Drawing. What sort of things do you like to draw?

Penny – (shrugs)

Adult – Do you like drawing people?

Penny – No.

Adult – Do you like drawing animals?

Penny – Dancing people. I do dancing people.

Adult – Ahh, do you? You like dancing don't you.

Penny - (nods)

Adult – What do your dancers look like? Do they have ballet tutus on? Like Angelina ballerina?

Penny - (shakes head)

Adult – No? oh. What do they look like then?

Penny – Just dancers.

Adult – well you'll have to draw one for me, so that I can see it? Can you draw me one of your dancing people?

Penny's discomfort with adult attention implies that focussed adult intervention groups would have restricted the anxiety alleviating behaviours which enabled her increased participation. When faced with anxiety provoking situations, Penny appeared to require time to choose to include herself, which would not have been an option for participating within intervention groups.

Within more structured class activities, she was also afforded a degree of freedom to interact with others at her own pace, at times using others as a source of support for task completion. In addition, as discussed previously, her inclusion within the 'middle ability' group provided her with opportunity to express understanding beyond the level attributed to her, which was restricted by the adult's control of the low ability group. However, as a consequence of her

inclusion within the 'middle ability' group, during morning activities, she was removed from Lilly, a peer who demonstrated skill in encouraging Penny's conversation, limiting her access to the social contact which may have supported the development of her social skills further, or more rapidly.

Penny's experiences of school demonstrates the significance of person-context fit. Her inbound trajectory was dependent upon a social context which accommodated her individual participatory conditions. Fortunately, her omission from the intervention programmes, provided this accommodation and allowed her a degree of control over her own participation. Although it would require further investigation, there is a possibility that the opportunities for Penny to watch others before interacting, control her own activity and copy the behaviour of others, enabled her to suitably develop an understanding of participatory practices at her own pace and, possibly, accounted for the increase in her school assessment levels.

ARTHUR

Like Penny, Arthur's initial assessment data, at the start of Year one, placed him as working below the level expected for his age, with his end of Year One assessment showing that he had progressed to be working at, or above, age related expected levels. As discussed, this was possibly due to the middle ability group's opportunity to use others as a source of support for developing and expressing understanding beyond their existing capability.

From the outset of Year one, Arthur exhibited enthusiasm for social play and affective connection to his peers. Arthur gravitated towards the outside area at opportunities for free choice activities, and this freedom allowed him to use his motivation for games to access

some curriculum content, as evidenced within the observed free choice activity (Appendix XXIII). In addition it provided a potential opportunity to develop creativity and problem solving capabilities as well as the meta-cognitive and self-regulatory skills that Whitebread et al. (2009) argue are developed and enhanced through play activities. During play activities, Arthur was seen to use props, to represent objects within his fantasy play scenarios with others. He was constructing, sharing and sustaining shared meaning between his peers, building the intersubjectivity that had potential significance for his meaning making in other aspects of class activity (Göncü, 2003). During a discussion with Arthur, his enthusiasm for social pretend play was as apparent at the end of Year One.

Discussion with Arthur about what he likes doing at school. (Appendix XXVI)

Adult – What are your favourite things to do at school?

Arthur – Outside.

Adult – Playing outside? What sort of things do you like to play?

Arthur – Dressing-up. I'm Iron man and Spiderman.

Adult – Are you? Do you climb up buildings?

Arthur – No (laughs). I can shoot webs.

Adult – What else do you like to do? What sort of things are you good at in school?

Arthur – Maths. I am good at maths.

Arthur was self-motivated to participate in social play activities and opportunity for this provided access to aspects of curriculum content as well as interpersonal interactions which supported his intrapersonal development, both of which had potential benefits for his continued participation in more structured class activities.

LOW ABILITY

In comparison to the other children within the class, the children identified as being 'low ability' experienced significantly more 'adult support', primarily from TAs, within class activities and through intervention programmes. From relatively similar starting points, each below the level expected for their age, Penny, Arthur, David and Bobby were assessed as working at different levels by the end of the year. With both Penny and Arthur working at levels beyond David and Bobby, despite the quantity of time spent by adults 'supporting' David and Bobby. With the exception of two subjects, both David and Bobby were still assessed as working below the level expected for their age by the end of Year One. This echoes research findings by Blatchford et al. (2011) which suggests that children who experienced most attention from school support staff, made least gains in attainment.

...there was a consistent negative relationship between the amount of such support a pupil received and the progress they made; the more support, the less progress made, even when the other potentially confounding factors were taken into account.

(Blatchford et al., 2011, p. 458)

Webster et al. (2011) suggest that this may not be attributed to individual characteristics of pupils or TAs, but could be accounted for using the 'wider pedagogical role' model (WPR). Exploring influential factors based on 'conditions of employment', 'preparedness', 'deployment' and 'practice', to investigate wider situational factors influencing TA roles and activities, Webster et al. (2011) suggest that opportunity to talk to teachers for the preparation and evaluation of their activity was limited. In addition, they suggest that the 'quality' of interactions between pupils and TAs are lower than between pupils and teachers, but that TA activity with specific groups of pupils reduces time spent in teacher activity with

these pupils (Webster et al., 2011). My research may contribute to this further by suggesting that the 'quality' of the interactions between TAs and pupils is not evenly spread across all interactions, with examples of class activity which suggest that TA interactions with pupils perceived to be of differing abilities have differing 'qualities'. Furthermore my research has explored conceptual factors which may influence this as well as the wider situational factors which may also contribute to the disparity between the quantity of adult attention and the assessment gains of individual children.

In addition the apparent disparity between the low ability children's end of year assessment scores in relation to the amount of additional support that they received had further consequences for perpetuating the misconceptions that had, potentially, influenced their low attainment. The children's levels reinforced ideas of inherent deficiency, given the perceptions of the apparent quantity of 'additional help' and the seemingly 'slow' progress in their development. The sense emerged of an inevitability to the low attainment, a 'told-you-so' response to the low attainment of children who'd apparently received significantly more attention and resources than some of their peers, yet had not made 'progress' relative to the attention given. Comments made by school staff related to the apparent low attainment of children within the low ability groups, appearing, to them, to confirm their implicit theories.

Comments from Support staff, related to the low attainment of the children who'd received additional support (Appendix XXVIII).

"All that time and effort would have been better spent on the most able ones".

"If results are so important then why don't they put the effort into the middle ones, they would really benefit from an extra push and then more results would go up wouldn't they."

Similarly, labels that had no real foundation appeared. The low ability groups would sometimes be referred to as the SEN group (Special Educational Needs group) despite the inclusion of children, like Bobby and David, who had not been assessed, or identified for assessment for any specific learning need. Excuses for low attainment began to emerge and, almost exclusively, occurred as a 'problem' with the child, with no consideration given to the 'quality' of the support provided, or the influence of the school practices upon the participatory opportunities of the children.

BOBBY

From the discussion with Bobby's parents, it was apparent that he had experienced disruption in his Early Years experiences, having spent part of the previous academic year out of school. Consequently he attended this school with limited experience of the requirements for school participation. In addition, having moved house and the arrival of a new sibling, at this point in his life he was also experiencing a new town, new friends, a new school and a new brother. Each of which had a potential impact upon his developing sense of himself and his positional identities within wider social constructs. Considering this in relation to Wenger's (2008) four views of identity, 'identity as negotiated experience', 'identity as community membership', identity as a nexus of multimembership' and 'identity as a relation between the local and the global' (Wenger, 2008, p.105). At the point of Bobby's entry into school, he was negotiating a variety of new experiences and reconciling disparate past and present experiences in a variety of social spheres.

Bobby's participation in class activity was influenced by the incomplete EYFS profile, which identified him as working below the level expected for his age and constructed perspectives

of the activities required for facilitating his development. In addition, his inexperience of school practices meant that he did not always respond appropriately to classroom routines and compliance with expected behavioural conventions, consequently, he became considered by some, as defiant or as a 'problem', a label which positioned him further on the periphery of class activity.

Bobby's inexperience of school activity was construed within a performance orientated environment (Shim et al., 2013), as a lack of ability. Bobby's low performance on the school's measures of competence resulted in low expectations of his capacity for school success, as well as conceptions that support for his school activity required, sequential, explicit reification of minute skills, or substantial support for task completion. Bobby was positioned on the periphery, partly as a consequence of his previous experiences conflicting with the requirements of the school, but, as a result of his positioning he was further denied the opportunities that may have facilitated the participatory practices with which to establish and maintain an 'inbound trajectory' (Wenger, 1998).

Once the ability grouping practices were implemented, Bobby was identified for inclusion in the low ability group, partially as a response to his assessment data, partially as a response to his apparent behavioural needs and partially as a response to his 'free school meal' and 'Pupil Premium' status. As a consequence of his inexperience of the required school practices, in contrast to the experiences of members of the other groups, as discussed previously, Bobby experienced greater adult control over his activities. The consequences of which were primarily experience of transmission models of teaching and learning, projecting ideas that participation required both passivity and compliance. In addition, as a consequence of overt adult control of his school activity, Bobby experienced restricted opportunity for non-task

related discussion, restricted opportunities to express understanding beyond the lesson content and restricted opportunity to access curriculum content for subjects other than Literacy and Numeracy.

Despite the over-emphasis upon Literacy and Numeracy curriculum content, Bobby's end of year assessment data depict him as working below age related levels in both reading and writing, and broadly at an age related expected level in maths. The disparity between the quantity of time spent engaged in 'learning' in these areas and the attainment gains achieved, further questions the effectiveness of the school's practices for meeting the learning needs of the individuals. In addition, Bobby's comments on his experiences of school also reflect his lack of enthusiasm for writing, and his experience of an over-emphasis upon writing within school activities.

Discussion with Bobby about what he likes doing at school. (Appendix XXVI)

Adult – What are your favourite things to do at school?

Bobby – Football

Adult – Football? Do you play football outside school too? At home?

Bobby – Yep, and I play with dad.

Adult – What other things do you like at school?

Bobby – err.

Adult – Do you like writing? Drawing? Maths?

Bobby – No way. Writing is my worst thing.

Adult – Do you not like it?

Bobby – No. all we do is writing writing writing, it is boring.

The apparent emphasis on Literacy and Numeracy activities, appeared to be premised upon the assumption that sustained, focused, social pressure would culminate in increased performance. Whereas, from Bobby's comment, it appears that it may have had the

alternative influence of disinclining him towards writing activities. Although, it may well have been an initial lack of enthusiasm for engaging in written activity that caused Bobby to not develop the skills to the school's measurement of an appropriate level. Either way, it is evident from Bobby's comment, that the school's emphasis upon writing is not matched by his own interest.

The focus upon sustained pressure to encourage Bobby to conform to school practices with little consideration of the school's practice upon his learning needs, is further evidenced through a discussion between Bobby and a class TA about his assessment levels and targets. Within which 'drilling' Bobby in the appropriate response to a question appears to be prioritised over any consideration of the utility of this for Bobby's development.

Discussion about assessment levels between adult and Bobby (Appendix XXVII).

Adult – so what level are you?

Bobby – 1.

Adult – You've got to remember the other bit. You're a 1c. So if anyone asks you then you have to remember the c.

Bobby – 1c

Adult – what do you have to do to improve your writing? What is going to make your writing even better?

Bobby – Um, write neat letters.

Adult – No it is this one isn't it (points to tick sheet). It is '*I can write some letters for sounds that I hear*'. So you have to remember, if anyone asks you, then you have to remember. '*I can write some letters for sounds that I hear*'. That's your target. Or you could just point to this one in your book. So if anyone asks you what your target is, then point to it, I'll put a cross by it to help you.

As discussed previously, the head teacher's explanation for the children's rehearsal of their levels and targets for improvement, was based upon the practice said to be common amongst OFSTED inspectors. This further encapsulates the school's prioritising of performance over development and the multilevel influences upon this, as the emphasis was on Bobby 'giving the appropriate response', with little or no apparent consideration for the purpose, or impact, of this practice.

DAVID

Like Bobby, David had experienced disruption within his early life, having experienced different foster families and attending different schools. Consequently he had experienced different conceptions of the acceptable and unacceptable behaviours within different contexts. In considering the impact of these context changes, from Wenger's (2008) view of 'identity as a nexus of multimembership' adapting to each of the new communities involved negotiating disparate and compatible aspects of the communities' practices to reconsider and reconstruct his identity, and conform to the differing requirements of the differing contexts.

David was often observed to be enthused by social pretend play and was self-motivated to participate in play activities, however his attention and focus upon other class activity was often seen to be short-lived. Subsequently his response to the focussed class activities, necessary for the school's assessment of his capability, provided only brief accounts of his understanding, as the maintenance of his attention was limited. David's EYFS assessment data was also incomplete as a consequence of his previous school experiences. Each of these contributed to his inclusion within the 'low ability' group. David's inclusion within this group was also influenced by his 'free school meal' and 'Pupil Premium' status. As a 'looked After Child (LAC)', David's attainment was given closer scrutiny. Consequently, as discussed, the

school's response to the additional scrutiny and the additional funding was to provide additional adult support, in the belief that this would result in additional attainment gains.

Like Bobby, David's inclusion in the 'low ability' group meant that he experienced greater adult control over his activities. As discussed previously, the consequences of this was an increased experience of transmission models of teaching and learning, projecting ideas that participation required passivity and compliance. In addition, through the adult control of his school activity, David also experienced restricted opportunity for non-task related discussion, restricted opportunities to express understanding beyond the lesson content and restricted opportunity to access curriculum content for subjects other than Literacy and Numeracy.

The school's constant focus upon specific subjects and the approaches that it employed to attempt to facilitate increased attainment, potentially further influenced David's reconciliation between differing experiences of his identity. In considering Sfard and Prusak's (2005) view of designated identities, as well as Cole's (1998) view of wider cultural prolepsis, by projecting messages of the importance of specific subject capabilities alongside emphasising perceptions of David's lack of sufficient competence, constraints are being placed upon David based on perceptions of his participatory preparedness and, consequently, his capacity for full community engagement. The removal of David from class for involvement in intervention groups, as well as assigning an adult to direct his class activity, each represent constraints which position him on the periphery of the class activity, implicitly stipulating that full participation in class activities is dependent upon evidencing sufficient literate and numerate capability relative to age specific expectations.

In contrast to the 'high ability' group's apparent enthusiasm for adult recognition of their performance, David appears to not have the same regard for the evaluation of his performance, or the development of his skills. This is apparent within the TA's discussion with David about his writing level and target for writing.

Discussion about assessment levels between adult and David (Appendix XXVII).

Adult – So these are the things that you need to do to move from a 1c to a 1b.

David – Is that when you get the cup thing?

Adult – What cup thing? You don't get a cup, you get better at writing. So these are the things you need to do to get really good at writing, do you want me to read them to you?

David – Yeah. Do you know...I never got the cup. I haven't ever got the cup thing.

Adult – What cup?

David – The badge. When you like get the cup badge.

Adult – Oh, the merit badge, do you mean the merit badge?

David – Yeah, I never did have a badge.

Adult – Well, if you get really good at your writing then you might get it. So these are the things that you need to do to be a 1b. Perhaps you'll get the badge when you're a 1b.

Within this example David appears to search for a purpose to interpret the arbitrary discussion about his writing development and writing levels. The assumption that the school's desire for an improvement in writing was also David's desire, appears to be misjudged. His concern was not on how his performance in writing activities influenced the levels, but on how the levels influenced what he would get, a focus which the adult then utilises to attempt to achieve the school's aim of motivating him to 'improve' his writing.

David's perception of his own competence with school activities is evidenced within his discussion about what he likes doing at school.

Discussion with David about what he likes doing at school. (Appendix XXVI)

Adult – What are your favourite things to do at school?

David – In the role-play area.

Adult– You like the role-play area? What do you like about it?

David – Playing with Arthur

Adult– What sort of things do you play?

David – Superman.

Adult – Do you? Do you fly like Superman?

David – Yeah. I catch baddies. The joker one and Lex.

Adult – Who are they? Who's Lex and the Joker one?

David – Bobby. We have to get Bobby.

Adult – What do you do when you get him?

David – Shoot him with lasers. I have lasers in here (shows his wrists).

Adult – Have you? How did you get them? Do I have them too?

David – No. I get them coz I am Superman.

Adult – What else do you do? What do you think you are good at at school?

David – Don't know.

Adult – Are you good at Maths?

David – No.

Adult – Writing? Drawing? Science?

David – No.

Adult – None of them?

David – No, just role-play.

Within this discussion, David does not consider himself to be 'good' at any of the activities that occupy the majority of his day. His enthusiasm for social pretend play is clear, although, as discussed, his opportunity to experience this was restricted in comparison to the majority of the other children within the class. Whilst interruption to David's early developmental experiences may have exacerbated his need to engage in the play-based learning that would have characterised his EYFS experiences, the perception of his performance as a lack of ability, rather than a lack of experiences, dictated the practices deemed to be beneficial for his

development. This provides a further dimension to the consideration of school practices specific to this age phase, in that the pedagogical approaches, within this context, were based upon the chronological ages of the children with little consideration of the developmental experiences of those children. Given the potential gravity of the influence of his previous experiences upon his development, as well as the disruption to his EYFS experiences, it could be possible that David's participation in school could have been facilitated by exposure to the pedagogical approaches emphasised within the EYFS framework, in which children's motivation to follow their own fascinations and experience opportunities for play based learning, with and without adult support, is valued (Department for Education, 2012). However, the strategies employed for developing his school competence, were determined by the pedagogical approaches deemed appropriate for his chronological age, without consideration for his personal history or the suitability of alternative pedagogical approaches for meeting his developmental needs.

CHAPTER SUMMARY

From the observed classroom activity the ability grouping of the children placed constraints upon the opportunities for interaction between peers, which may have had potential for increasing their participation and development. In addition, significantly different experiences of school were encountered by children within different ability groups, this appeared to include both interactional differences within asymmetrical relationships, between adults and children, as well as symmetrical relationships, between children. Furthermore, children's enthusiasm for school activities was intertwined with their beliefs about their own competence, beliefs which were possibly influenced by their awareness of their *position* within the class and the interactions with adults that they encountered.

Strategies advocated for targeting underachievement, removed children from participating within portions of class activity, and restricted their access to a broad and balanced curriculum. This impacted upon their activity when in class, but importantly, showed no significant positive impact upon their academic attainment. The influences upon the practices and the observed interactions were multidirectional but appeared to be premised upon, and appeared to project, theories which suppose an 'acquisition' approach to learning, and a 'transmission' approach to teaching. Views about the *ability* of children appeared to imply that the deficiency in low ability children could be remedied by greater, sustained, reification of the 'missing' skills and competencies.

CHAPTER 7: CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

CHAPTER INTRODUCTION

This chapter attempts to further draw together the main features of the observed activity further, to consider the influences on, and of, ability grouping, and its implications for children's experiences of learning in school. The main points from the analysis of class activity are considered against each of the research aims.

CONSIDERATION OF RESEARCH AIMS

TO EXPLORE THE INFLUENCE OF ABILITY GROUPING ON CHILDREN'S LEARNING IN A YEAR ONE CLASSROOM

TO EXAMINE THE PRACTICES WHICH SHAPE TEACHING IN ABILITY GROUPING

Conceptions of learning within the school appeared to prioritise a linear 'next step' systematic approach to the acquisition of a prescribed set of skills and competences. This approach appears to be premised on, and to reflect an *entity* theory towards intelligence, and the associated focus upon demonstration of competence (Dweck, 1986; Dweck et al., 1995; Mueller & Dweck, 1998; Levy et al., 1998). The rationale for ability based groupings was often stated as it being a means of raising attainment by accurately addressing individual children's learning needs. This appeared to be based on the premise that learning involves acquiring particular skills, knowledge and competencies, by progressing through the specified curriculum in a linear systematic fashion. From this perspective, it was assumed that progression through the curriculum content was dependent upon the provision of suitable resources, and the transmission of suitable information. The practice of ability grouping, advocated at school level, as well as through the materials and messages provided for

intervention activities, fostered a view that low attainment was based on a deficiency within the child and that targeted support could remedy this and accelerate progress. This targeted support often involved increased adult attention from inexperienced adults, without regard for their professional development, confidence, training or experience. Consequently the material supplied to support the TAs' delivery of intervention programmes was prescriptive, providing only narrow opportunity to account for individual children's needs. Furthermore, this projected, or reinforced, the prevailing conceptions of learning and learners (Gibson & Patrick, 2008).

A further factor which appeared to influence the practice of ability grouping was the assessment practices at the school. Within this research, the use of Literacy and Numeracy assessment data as a measure of the children's capability as well as the staff's and the school's effectiveness, evoked assessment practices which engendered and projected an emphasis on performance over development. The school's assessment practices, focussed on the children's performance and the evidencing of their capability during day-to-day activity, apparently focussing on a performance goal orientation which emanates from, and engenders, a fixed trait, entity, theory of intelligence (Alkharusi, 2008). In addition, the fixed trait beliefs, influence the meaning systems with which individuals interpret their experiences. These meaning systems, according to Plaks et al. (2001), incline individuals to pay greater attention to information which confirms stereo-types and reinforces their initial assumptions, subsequently perpetuating the inherent preconceptions which underpinned their beliefs. This has particular potential repercussions for confirming conceptions of high or low abilities within individual children. If individuals assume a fixed trait belief about human attributes, then interpreting information which confirms individuals as high ability, or low ability, reinforces the belief in the need for differing experiences to allow for differing abilities.

The beliefs and practices that promoted ability grouping at school level were also influenced by wider institutions. By prioritising assessment data, in Literacy and Numeracy, as a measure of learners' success, teachers' success, management's success and a school's success, the focus upon evidencing individuals' performances had multilevel influences. In addition, Pupil Premium Funding and the accountability for its use, demanded accelerated progress of children deemed to be vulnerable to underachievement. The type of practices deemed expedient for facilitating accelerated progress had repercussions, both on validating particular pedagogical approaches and on sculpting the school experiences and participatory conditions of the individuals involved.

TO EXAMINE CHILDREN'S EXPERIENCES IN ABILITY GROUPS

Conceptions of ability, within the school, appeared to be centred upon attributing blame for low ability upon the individual or their home environment. The emphasis was on the individual's responsibility to align to the practices of the school, or the families' responsibility to raise children in a manner that aligns to the practices of the school. Failure to conform to the school's expectations, influenced perceptions of their competence, which subsequently, influenced their experiences of school and their access to the tools required for participation.

As a consequence of the ability groups, children experienced different activity within school. The examples used within the analysis were intended to exemplify the typical activity within the classroom in order to describe and explore the interactions and the factors mediating the activity at different levels. From the observed activity, several key features of ability grouping emerged. The first related the differing quantity of adult control over the activity of members of different ability groups, with the associated influences upon their opportunity to develop

the self-regulation and exhibit capability beyond the specific intended learning. The second key feature appeared to be the extent to which the conceptions of ability regulated the interactions between the adults and the children from different ability groups, with adults' interaction with low ability children seeming to be more inclined towards giving instructions and directions to focus upon task completion, than their interactions with children within other ability groups. A third key feature was the differing quantities of exposure to curriculum areas other than Literacy and Numeracy.

Adult control over the low ability children's activity tended to be focussed upon task completion, with directions and instructions given in order to facilitate children's appropriate production of the activities' outcomes. However, by focussing upon completing the task efficiently, opportunities for interactions that may have facilitated the children to gain greater control over their own activities were minimised. Whereas, interactions between adults and children from within the high ability groups, evidenced some of the interactional characteristics which promoted higher order thinking and learner agency. By prioritising a passive role in the learning process, the children within the low ability groups were denied access to the opportunities for self-regulation that formed part of the requirement for participation in the other groups.

In addition, adult control over the low ability children limited their opportunities to express understanding beyond the level ascribed to them. By ascribing a linear 'next step' approach to learning, children's opportunity to demonstrate understanding beyond the 'next step', limited their opportunity to move along the assessment scales, which could have provided evidence of greater progress. The teaching of these skills was centred on reifying them as separate components. The children from the high ability groups were afforded opportunity

to apply their developing competencies in more naturalistic scenarios, through their access to 'free-choice' activities, which allowed for opportunities to follow their own interests and rehearse skills within a meaningful context. In contrast to the regimented, adult led, activities that represented much of the children's activity within the class, these activities offered a degree of freedom to the children to regulate their own activities and develop their social relationships. Whereas, the children identified as being low ability were given tasks designed to reify skills, restricting their participation to the rehearsing of the individual skills determined as those expedient for developing into a literate or numerate person. Furthermore, experience of these skills became a precondition of full participation in other aspects of class activity, as children who had not reached the required standard in Literacy and Numeracy were removed from their peers for part of their day to participate in intervention groups designed to further reify the constituent skills. Opportunity to apply and extend these skills for a purpose beyond the specific learning of an individual skill, was not provided to the low ability group, but was available to the other children.

Views of ability constructed expectations for children within different ability groups, as well as constructing notions of what 'successful learning' entailed, and what 'successful learners' were like. The restrictions imposed on the low ability children maintained 'peripheral trajectories' (Wenger 2008), by restricting access to the cultural tools that would be required for full participation. Participation as a low ability member of the class, required conformity, instruction following and passivity. Whereas participation as a middle or high ability member of the class required articulation, reasoning and self-regulation.

Furthermore, the justification for grouping the children by ability for suitably addressing individual need was not realised, either through the within-class groupings or the intervention

groups. The adults' structuring of the activities, and the rigidity of the intervention programmes prevented the individual learning needs of the children being recognised and attended to. Despite the sustained reification of the individual skills required for the development of literate and numerate activity, the children's progression within each of the subjects was not as significant as their peers whose backgrounds and starting points were similar.

The consequences of the classroom practices on reinforcing accepted conceptions of ability had further repercussions for the children, in their continued positioning within the class and on ascribing labels to find explanations for their seeming lack of progress.

TO EXAMINE THE INTERACTION OF INDIVIDUAL IDENTITY AND PRACTICE IN ABILITY GROUPS

In viewing learning from the 'community of practice' perspective, in which learning is discussed in terms of 'movement deeper into practice', the differences between the opportunities provided for the low ability groups, in relation to the other ability groups, indicates some of the influences that act to maintain *peripheral trajectories* (Wenger, 2008). Through restricted participation, some children were denied opportunities to experience the activity that may have enabled them to develop the tools required to become full members.

The positioning of the children in ability groups was based on their familiarity of the tools for expressing their understanding in culturally valid forms. Those who were experienced in interpreting adults' meaning and responding appropriately were positioned favourably within the class hierarchy through the school's assessment procedures. Whereas, those whose outside school experiences had not included cultural practices valued by the school, were positioned on the periphery. The overt ordering of individuals appears particularly significant

in relation to the theoretical perspectives which emphasise the development of identity based upon negotiating conceptions of oneself from other people's conceptions (Sfard & Prusak, 2005; Wenger, 2008; London et al., 2014). The children positioned on the periphery of class activity were denied access to the tools required for full participation, thus restricting their trajectories. Whereas, the children positioned favourably were directed towards activity that would maintain conceptions of their competence.

Within discussions with the children there were examples in which the children were referencing others to identify their own position. Their understanding of their own capability, position, value and enjoyment appeared to run parallel to their assigned positions. Whilst Lilly and Christopher made references to enjoyment of specific subjects in school, the others prioritised play activities, with either no reference to enjoyment, or direct reference to a lack of enjoyment for school activities. Lilly also made reference to her understanding of the positions within the class, referring to her group as 'top group', she also makes reference to her position in relation to others. She has seemingly developed an understanding of different children's competence in relation to hers, based, from her explanation, on the difficulty of the work presented. Christopher also refers to his skills in relation to others, and refers to specific activities that he knows that he is good at. Enjoyment, for Christopher, appears to be related to competition, being good, and beating others.

TO EXPLORE THE INFLUENCE OF ABILITY GROUPING ON WIDER CLASSROOM PRACTICE AND PEDAGOGY

The implementation of ability grouping had implications for the organisation of the children and the physical positioning of them into specific areas. In addition, teacher performance became measured by how accurately the set activities reflected the children's assessment

levels and the 'next steps' in their learning. This further reinforced a belief in a linear, systematic, approach to learning and limited the children's opportunity to demonstrate understanding beyond the prescribed objective. One of the other largest influences on the classroom activity related to the removal of children to other classes or groups to attempt to address their learning needs. In so doing their understanding of the class activity was compromised when they were present. This appeared particularly true for children removed from class for 'set' groups, or intervention groups, as this created discontinuity between their experiences.

The most significant feature of ability grouping practices appeared to be implicit assumptions about the learning process that it projected. Ability grouping and the associated assessment strategies which underpinned it, conveyed messages about the nature of learning and the appropriate pedagogical approaches for developing competence. This highlights the perpetual loop of 'folk pedagogy', in that one's assumptions about the nature of learning influence the practices employed to promote it, these in turn, sway how an individual acts, influence the way that experiences are interpreted and determine how individuals' performances are judged. Furthermore, the interaction of each of these elements act to further reinforce the projected assumptions which underpin the practice.

A significant factor which constructed perceptions of ability, influenced the practice of teaching in ability groups, and reinforced perceptions of individual children's capability, was the conception of learning as merely 'acquisition' and the conception of teaching as merely 'transmitting information'.

The pedagogical approaches advocated by the school practices, the implicit messages from wider constellations, and the repercussions upon children's access to the tools required for

participation were all further exacerbated by the lack of pedagogical discussion or reflection within the school. This appeared particularly significant in relation to the TAs' role in developing children's competences with limited or no training to prepare for this role and interpret their own experiences of interaction with individual children. The acceptance of particular approaches, practices and beliefs, and the reproduction of these approaches, practices and beliefs, were enabled by the lack of opportunity for questioning their effectiveness, or considering their wider implications.

The following table summarises the findings from the research and the implications for possible changes to classroom practices which may address the themes that arose from the observed class activities.

Table 7 – findings and implications for practice

Findings from the data	Implications for practice
Children's experiences and learning opportunities may be narrowed if interactions are confined to small groups of 'similar ability' children.	Increase flexibility in grouping practices, which provide opportunities for children to develop relationships and develop interactional experience with a wide variety of their peers.
Conceptions of ability may impact upon the quality of dialogic exchanges between adults and children.	Prioritise professional dialogue about 'ability', learning and pedagogy in school, involving all adults.
Overtly ordering children may influence their identities and motivation for participating in school activities.	Engender Mastery/Learning Goal orientated environments, which emphasise <i>learning</i> and <i>development</i> , with a decreased emphasis upon <i>performance</i> and evidencing capability within classrooms. (Facilitated by a decrease in the use of children's performance levels as a measure of teacher and school performance).
Rigid TA practice and curriculum material for TA use may inhibit learning.	Re-evaluate the roles and activities of untrained staff <i>delivering</i> the curriculum.
Linear, 'next step' approaches to learning may limit children's learning and development opportunities.	Prioritise flexible pedagogical approaches to teaching and learning activities, which allow for individual's developmental needs to be suitably met, and enable children to express and develop understanding beyond the level ascribed to them.

LIMITATIONS AND IMPLICATIONS OF THIS RESEARCH

As an ethnographic case study, there are limitations to the applicability to other settings. The degree of relevance to other institutions is dependent upon the similarities and differences between this context and others. I do not claim a disinterested account of the class activity. As discussed, there were several factors which impacted upon the data collection process and my interpretation of the accumulated information, as the data obtained and determined as relevant was subjective, as was the analysis of it. My interpretation of what I saw and what I felt it was showing, determined the progression of the research and therefore, does not stand up to the same scrutiny that other types of research might seek to achieve.

I do not, however, believe that the practices identified within this school, nor the beliefs which influence them, are particularly unique to it. The theoretical and empirical research within the reviewed literature, as well as the data collected and discussed within this research, indicate the need for a re-evaluation of classroom grouping practices, the theoretical assumptions about learning upon which they are dependent and the repercussions of their use on children's experiences in schools. As previously outlined, the data within this research indicates that the priorities for adaptations to practice which may address some of the features of class activity that have emerged are as follows:

- Increase flexibility in grouping practices, which provide opportunities for children to develop relationships, and develop interactional experience with a wide variety of their peers.
- Prioritise professional dialogue about 'ability', learning and pedagogy in school, involving all adults.
- Engender Mastery/Learning Goal orientated environments, which emphasise *learning* and *development*, with a decreased emphasis upon *performance* and evidencing capability within classrooms. (Facilitated by a decrease in the use of children's performance levels as a measure of teacher and school performance).

- Re-evaluate the roles and activities of untrained staff delivering the curriculum.
- Prioritise flexible pedagogical approaches to teaching and learning activities, which allow for individual's developmental needs to be suitably met, and enable children to express and develop understanding beyond the level ascribed to them.

One of the main barriers to implementing these changes stems from the multidirectional influences maintaining ability grouping practices. As discussed, these influences encompass a wide variety of policies, practices and pedagogical beliefs from a wide variety of institutions and individuals. The findings of this research are not, therefore, directed to one individual, institution or regulator. The school's partiality towards ability grouping was based upon, and projected, embedded conceptions and misconceptions about the nature of learning, learners and the learning process. Altering these perspectives would require dialogue about pedagogy and practice to become an integral part of school discourse.

Whilst a body of research exists which contemplates the utility or futility of ability grouping, much of the research is concerned with specific consequences for particular groups, or specific consequences for individuals. I hope that this research will contribute to that body further by explicating some of the interpersonal and community activity which act to construct the justifications for ability grouping, the misconceptions upon which the practices are founded, and the repercussions of the practice upon children's experiences of school. Furthermore, I hope that this research has gone some way to achieving its aim of illuminating some of the multidirectional influences upon class activity, and that this, in part, illustrates that accountability for children's academic progress, or lack of, does not necessarily lie with an individual child, family, teacher, school or system, but rather in a complex interaction between each.

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APPENDICES

Appendix I – Structured Observation of children in mixed ability group Term 1

Appendix I - Structured Observation 1– (Term 1) (Drawing)						
The children are sat around a table with a large piece of white paper in the middle, they have a variety of colouring implements and drawing pencils, they have access to other materials, e.g. paint, glue, scissors, etc. if they choose to use them. The children have been told to work together to create a picture of what they think the school looks like at night. This is part of their curriculum topic on light and dark, they have already, previously, started to look at nocturnal animals and different light sources.						
Christopher	David	Lilly	Arthur	Penny	Bobby	Notes
<p>I think we should have the school there.</p> <p>I can't do the building if you do that.</p> <p>I do the building and then you do the sky.</p> <p>Well, you colour part of it, when I'm finished.</p>	<p>Yeah and I do the building too yeah?</p> <p>Yeah, we do the building. What you doing?</p>	<p>We have to take turns.</p>			<p>I think we should have the sky black.</p>	<p>Christopher starts drawing an outline of a building in the middle of the paper.</p> <p>Bobby takes a black pencil and turns the paper around to face him.</p> <p>David turns to Arthur.</p> <p>Arthur picks up a yellow pencil.</p> <p>Bobby, kneeling on his chair, stretches over and starts</p>

			I'll do a sun.		There won't be no sun.	colouring the sky.
		<u>You can't have a sun, its night time.</u>				
			I mean moon.			Arthur draws a circle with lines coming off it.
<u>Well it could be yellow, it is sometimes yellow.</u>		<u>Do it white then, the moon isn't yellow.</u>				Bobby draws a crescent shape in the air.
		Well it is sometimes.				
		But I think ours should be white.			<u>That's not how to do a moon. A moon is like...</u>	Penny picks up a brown colour and begins drawing a fox next to Lilly.
Moons can actually be different shapes.			I'll do a white one.			
		I'm going to do a fox.				Lilly starts to demonstrate how to draw a fox, Penny watches and nods.
Yes...and did you know they don't actually shine.			Yeah they can be round shape can't they?			
		Are you doing a fox too?				
		Well I'm doing a fox, see if you can				

		make yours like mine.				
	I know that, they don't actually shine do they.	Shall I show you?				
		Look, you put a tail there and a long nose. I put his ears on, like a dog really.				
	<u>No they don't, it's the sun it like reflects off the moon, like a mirror, it's a reflection and it just looks like its shiny.</u>	Moons do shine.				
	Yeah it just looks shiny don't it?					
	Yeah, I've seen one in the day.	Did you know, you can actually see a moon in the daytime sometimes.				
	Do I do that bit?				Yeah, I've seen one, I have, in the day.	
	What bit's my bit? Am I on that bit?	Umm...maybe do some sky				David, still watching Christopher, asks to start drawing something.
Not yet.		Well maybe you both can, we have to			No I'm doing sky.	

<p>Ok, wait, hang on...you can do the door, when I've finished it. You can colour my door. It has to be blue though, because the door is blue. But its night time so it can be dark blue.</p> <p>Yes, but maybe even more dark.</p> <p>Ask them for one.</p> <p><u>Yeah. You can do this door, but don't jog the paper.</u></p>	<p>What like this blue?</p> <p>We don't got other blue.</p>	<p>do sky all over.</p> <p>I'll take you!</p> <p>Shall I take you to find one?</p> <p>We've got one.</p>	<p>Do you like my moon?</p> <p>...what do I do now?</p> <p>Yeah we gonna do the sky together?</p> <p>No.</p> <p>Is mine scribbly?</p> <p>Over there.</p> <p>Me too.</p>	<p>Yeah, you do over there and then join up.</p> <p>Is mine scribbly?</p> <p>No.</p> <p>My black has run out.</p> <p>Where's a sharpener.</p> <p>I'm gonna sharpen it.</p>	<p>David picks up a blue pencil.</p> <p>(David, Christopher and Lilly talking about the door colour) (Bobby and Arthur talking about their pencils.)</p> <p>Bobby and Arthur leave to go to sharpen their pencils at the bin.</p> <p>Lilly holds her hand out, David takes her hand and follows her to the next table.</p> <p>David goes with Lilly to find a dark blue pencil.</p> <p>Lilly and David return with a dark blue pencil. David holds the pencil up to Christopher.</p> <p>David starts to colour the door vigorously.</p> <p>David slows his colouring down and</p>
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<p><u>And colour just round there, not that bit.</u></p> <p><u>You've got to be gentle with it though. Like slowly not so fast.</u></p> <p><u>Yeah but maybe even slower. You don't need to push hard, just like gentle.</u></p> <p>You sharpen your blue and I'll finish the door.</p>	<p>Is that door colour?</p> <p><u>Like that?</u></p> <p>My one needs sharpening.</p>	<p>Is that the door colour?</p> <p><u>Is that an owl Penny?</u></p> <p>That's a good owl, Penny. Shall I try and <u>do an owl too?</u></p> <p>Shall we finish the sky?</p>	<p>Look at this...feel it.</p> <p>Come with us, we'll show you.</p>	<p>Yes</p> <p>yes</p>	<p>asks Christopher if it is ok.</p> <p>Penny smiles and looks down at the ground.</p> <p>Arthur and Bobby return laughing, holding up their sharp pencils, and pretending to cut their finger with it.</p> <p>David goes off with Arthur and bobby to sharpen their pencils.</p> <p>Christopher goes to get another dark blue and finishes colouring the door.</p> <p>Penny and Lilly continue to colour the sky black.</p> <p>Arthur, Bobby and David find more pencils to sharpen, and do not return to the picture until they have to show it at carpet time.</p> <p>Feel mine too. Look. aaaaahhhh</p>
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Table 1.1 - Total number of exploratory statements made across all individual participants (Observation 1).

	Total number of statements made	Total number of statements made which include the key words.	Total number of statements that could be interpreted as exploratory.	Total number of statements made which include the key words as % of total number of statements made.	Total number of statements that could be interpreted as exploratory as % of total number of statements made.
Observation 1 (Drawing)	70	12	23	17%	33%

Table 1.2 – total number of exploratory statements made by each individual (Observation 1).

(Observation 1- Drawing)	Christopher	David	Lilly	Arthur	Penny	Bobby
Explicit key words.	3	3	3	1	0	2
Explicit key words and Implied key words.	8	4	7	1	0	3
Statements containing explicit key words and Implied key words as % of total number of statements made.	50%	33%	39%	9%	0%	25%

Appendix II - Structured Observation of children in mixed ability group Term 2

Appendix II - Structured Observation 2- (Term 2) (Shape sort)							
The children are sat around a table, they have a variety of 2 dimensional and 3 dimensional shapes on the table, which are a variety of different colours and sizes. The children have just completed a class activity looking at different ways to sort objects. The children have all been told to work together to sort the shapes. They have been given 'success criteria' for the activity, which included a focus on the group discussion...listen to each others' ideas, ask questions, respond to questions, agree a way to sort the shapes before you start.							
Christopher	David	Lilly	Arthur	Penny	Bobby	Adult	Notes
I think we should do faces.	Yeah let's do faces.	We have to ask everybody what they think first.	I wanna do the blue ones.		I'm doing red.		Christopher , David Arthur and Bobby all pick up a shape as soon as they get to their table.
		We have to decide if we are sorting by colour or shape first.	Colour		Colour. I'm doing red ones.		Bobby starts to collect all of the red shapes.
		So, Christopher how do you want to sort them?					

By faces, look this has 6.	Everyone who thinks to do faces, put your hand up.	Right so that's 2. I think that we should do 2d and 3d.					Christopher takes a cube and points to the different faces on it. Christopher and David put their hands up.
	Everyone who thinks 2d and 3d put your hand up.						Lilly raises her hand and gestures to the others to put theirs up too. They don't.
	Faces won.	We haven't asked Bobby yet. Do you even know what faces are?					David and Christopher lean across the table and each grab a new shape.
	Yeah	What are they then?					David turns to talk to Arthur.
	You tell her.						Christopher points to the flat part of a 3d shape.
They're these bits look.	Yeah I do know.						David takes the shape

	<p>They're these bits look.</p>	<p>But the 2d ones don't have them.</p>					<p>and points to the same part to show Lilly.</p>
<p>Yeah, so they would be zero.</p>		<p>We need to ask Bobby too.</p>	<p>I don't know.</p>				
<p>Do you wanna do faces Bobby.</p>		<p><u>But you can't do that, you're not allowed.</u> <u>We have to agree!</u></p>			<p>No, we're doing colour, I'm doing red.</p>		<p>Bobby and Arthur have already collected all of the red and blue shapes, while the others were talking.</p>
	<p><u>Who</u> wants colour?</p>		<p>I'm doing blue.</p>				<p>David raises his hand and gestures to Christopher</p>
	<p>Yeah colour, we're doing by colour, I'm doing yellow.</p>						<p>The children sort the shapes by colour, with little effort. Then raise their hands to attract attention.</p>
							<p>Adult goes over to their table.</p>

Yes	We sorted all of them	Yes. I wanted to sort by 2d and 3d, Christopher wanted to sort by the number of faces, <u>but</u> we agreed to sort by colour, <u>coz</u> that's what they wanted to do.				<p>So have you sorted all of the shapes?</p> <p>So, your criteria for sorting the shapes, at the moment, is by colour. But you did have different ways that you thought of for sorting them? So maybe now you could try one of the different ways. How are you going to decide? What are you going to do to get each other to agree?</p> <p>Well let's ask everybody.</p>	Arthur and Bobby start building towers with the shapes.
voting!		We used hands up before. <u>But</u> some people didn't put their hand up.					

		Penny how would you like to sort the shapes?				How could we ask to find out what criteria other people want to use to sort the shapes?	(Lilly and Christopher both adopt a slightly condescending tone to Penny)
		By shape?		Shape			Arthur reaches across the table and grabs a triangle from the 'green pile'.
		So like triangles, squares, circles...					
		Well I think that's a good idea.		yes			Bobby picks up the largest shape and puts it in front of him.
Me too. Well done Penny.			I don't mind. I'll do triangles.		I'll do these ones.	Well hang on. Have you asked Arthur and Bobby yet?	
	Yeah let's do shape.				Ummmm.	What is that shape called Bobby? Do you remember?	Bobby stares at adult, appearing to want a clue.
					Ummmmm.	Who can help Bobby?	
It's a cylinder.		Cylinder				How do you know that it is a cylinder? What clues are there that tell you that?	

<p>It is long and it has circle faces.</p>						<p>Ok, so what's this then?</p> <p>Is this a cylinder too?</p> <p>Oh...but this one is long with a circle face too. Why is that not a cylinder?</p> <p>What do you think Arthur? Is this a cylinder?</p> <p>So you are going to have to be careful when you are sorting by shapes because some shapes are similar, you might have to help each other decide which pile to put the shapes in.</p> <p>You have sorted the triangles...but this time, I want you to put all of</p>	<p>Picking up a cone, the adult challenges the description.</p> <p>Children, laughing, appear to understand that the adult is 'playing with them'.</p> <p>Arthur has already collected triangles.</p>
<p>It's a cone.</p> <p>Because the cone has a pointy bit and the cylinder doesn't.</p>		<p>NO! that's a cone!</p>	<p>No it's a cone, like an ice-cream.</p>				
		<p>Right so...lets put all of the circles in a pile here.</p>					
<p><u>That's not a square, it's a cube.</u></p>	<p>We can put square ones here.</p>		<p>I've done my triangles already.</p>				

<p>but you can't just take triangles.</p> <p>She said, you have to take a shape and put it in a pile.</p> <p>We need a pile for the prisms and the pyramids.</p> <p>Ok, that's for prisms and that's for pyramids.</p> <p>That's a cuboid, we haven't got a place for them ones yet.</p>	<p>Put cube ones here then</p>	<p>No we have to put them back.</p> <p>Yeah, but we could put triangle pile there now.</p> <p>Like this, look, I'll show you.</p> <p>Pick up a shape...what shape is it?</p> <p>Sort of, it has square bits but it is actually a cube, ok?</p> <p>That's ok...then you put the cube in the right pile.</p>	<p>Put triangles here</p> <p>NO!</p> <p>Yeah put triangles here.</p> <p>A square</p> <p>Yep cube, I forgot.</p>	<p>the shapes back in the middle, decide where each shape will go, and put a shape in each category. Don't just collect the triangles.</p>	<p>Adult leaves them to sort the shapes again.</p> <p>Lilly gestures in front of her.</p> <p>David grabs a cube.</p> <p>Gestures in front of him, where the triangles already are.</p> <p>Bobby picks up all of the triangles and puts them back</p>
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Pyramid, it is a...a...um...a square bottom one.	Its here, I got them one.	<u>Which pile do you think?</u>				in the middle.
		<u>Well done, then you get another shape.</u>	There.		They go in the middle	Arthur starts collecting the triangles up again.
	What that again?	<u>Understand ?</u>	Yep		Yeah, she said. She said that didn't she?	
		Cuboids can go near Penny, she hasn't got any yet.				Lilly starts to explain to Arthur how to sort the shapes, she uses exaggerated gestures and a higher pitched tone.
		Do you want cuboids?				
		Square based pyramid.			I got space here	(Christopher talks with David, while Lilly talks with Arthur.)
		It is different to that one look, that one has a triangle on the bottom, so it is a triangle base pyramid, see?				Lilly continues to explain the shapes to Arthur and Bobby.
		That's a rectangle.				Children continue to sort shapes

		We're done!			What's this?	into piles, naming some of them as they go.
						Bobby puts an oblong in with the cuboids. Paige corrects it and puts it in a different place.
					What's that then?	How have you sorted your shapes Bobby?
		These are the square based pyramids aren't they? Those ones are the triangle based pyramids.				Christopher puts his hand up, and tells the adult that they have finished.
I knew that, I did say that too.					We put circle ones in that pile, square ones in that pile and them ones there.	They are pyramids, super!
					Ummm, I think, pyramids.	You are right, well remember d!
No		<u>We haven't got a pile for spheres, we didn't have any spheres!</u>				So David, where should I put this shape?
...it's a sphere				yes		Adult holding a ball.
						So what shall I do David? Shall I put it on

No!	Um...on the circles. yep	NO! Because it isn't a circle, it is 3d and it is a sphere.		No that isn't one		the circles pile? Why do you think no? What would be wrong with putting it on the circles pile? How could you explain that to David? So if you have sorted your shapes by colour, and you have sorted your shapes by shape. Are there any other ways that you could sort them? That's an interesting idea. One of the other groups had a really interesting idea too, they have used two criteria for each pile, so they have sorted by colour and shape.
<u>Circles are 2d they are like flat. It is a different shape.</u>	No.	We were going to do 2d and 3d before.		The same as them.		
		That's a good idea.				

<p><u>Well...you could have like, green triangles in like one place. And red circles in another and then like carry on for all of them.</u></p> <p>Um blue squares pile.</p>						<p>Christopher , how would you sort by colour and shape?</p> <p>Well that could be a good idea...so what pile would I need for this one?</p> <p>Excellent.</p> <p>Bobby if we were sorting by two criteria, what pile would this go in?</p> <p>What colour triangles?</p> <p>Yeah.</p> <p>What about this one Penny? Where would I put this one?</p> <p>What about this one Arthur?</p> <p>Red cube, well done.</p> <p>It is, do you know what type of prism it is?</p> <p>It is that's right, a triangular prism. It</p>	
					Triangle		
					Red		
				Green circles			
			Red erm... what's that one again?				
		Cube					
Cube			Cube				
This is a prism isn't it?							
Um...a triangle prism?							

		I have. I've had some before once. I had triangle prism chocolate.				always makes me think of chocolate! Have you seen chocolate this shape before?	
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Table 2.1- total number of exploratory statements made across all individual participants (Observation 2-Shape sort).

	Total number of statements made	Total number of statements made which include the key words.	Total number of statements that could be interpreted as exploratory.	Total number of statements made which include the key words as % of total number of statements made.	Total number of statements that could be interpreted as exploratory as % of total number of statements made.
(Observation 2-Shape sort).	114	13	25	11%	22%

Table 2.2 - total number of exploratory statements made by each individual (Observation 2).

(Observation 2-Shape sort).	Christopher	David	Lilly	Arthur	Penny	Bobby
Explicit key words.	3	1	7	1	0	1
Explicit key words and Implied key words.	8	1	15	1	0	1
Statements containing explicit key words and Implied key words as % of total number of statements made by each individual.	30% (8/27)	6% (1/17)	43% (15/35)	7% (1/15)	0% (0/6)	7% (1/14)

Appendix III - Structured Observation of children in mixed ability group Term 3

Appendix III – Structured observation 3– (Term 3) (Puzzle) Children are standing or sitting at a table they have a large puzzle and have been reminded to work together to complete it. There is a class display with key questions and phrases, to remind the children about key points from their 'talking' and 'working together' activities.							
Christopher	David	Lilly	Arthur	Penny	Bobby	Adult	Notes
Right. Ok. Stop! Wait!		How are we going to do this? We have to organise how to do it.					Children start taking and spreading puzzle pieces.
We have to sort out who's doing different bits.							All look at Christopher.
I think that we should start at the corners. Do you agree?	Yep.						
		How about if we each take a corner bit to start?	Yeah		Yeah		
That leaves two out.	Yeah						Christopher turns to David.
How about me and you do this corner?	yeah						
I've got some bits already.		Me and Penny will do this corner. Yes?					Lilly turns to Penny for agreement.
		And then you two do that corner.		Yes			Lilly directs Arthur and

			Yeah!		Yeah We're working together		Bobby to the puzzle piece and points it out on the picture. Arthur jumps up and down. Bobby grabs Arthur and jumps too.
Have you done this one before?	Yeah, I think so.	No	You can't have <u>its a</u> <u>new one.</u>		He could have it. Have you got it? Have you got it at your house?		All children are sifting through the puzzle pieces, turning them or fitting the pieces together.
Me neither.		Have you done it?		No.			Lilly asks Penny a question and pauses before she answers.
		I think this is sky.		<u>This bit?</u>			
Have you got any blue bits?	No.	Yes here.					Christopher talks to David.
Well then you find the blue pieces.	Ok.		Look half a a face.		Ha, look, he's only got half a face.		Bobby holds up puzzle piece to Arthur. Arthur takes it and show David.
		That isn't a bit for your corner. <u>That</u> <u>is a bit of</u> <u>the</u> <u>policeman.</u>					

I saw a policeman at an accident.	An accident?	Its on the box, look.	I saw a police at my house.				
A motorbike crashed into the car.	In your car?	Why was he there then?	Not really!		Why? Was you naughty? Was your mum and dad naughty?		Christopher and David are talking together. Lilly, Arthur and Bobby are talking together.
No I was in the car, but not into my car. It didn't crash into my car. It crashed behind my car.	Was he bleeding?	She came to lunch. Did she sit with you?	I have seen one.	We have one here. A lady one			
There was an ambulance and a police car and the biker was on the floor.	Did the ambulance have a man?	She sat with me.		No			
	Was his... Was... What was his name? Was it Martin?	We need to join them up.	Where's it go?	Yours doesn't join.	We need to join ours.		
The ambulance man? I don't know.	Did he have like...Was he...What did he look	It goes with the other corner. We haven't started that bit yet.					David gestures to his head

	like.						
I don't know.	My Martin. My dad Martin, <u>he</u> has <u>an ambulance.</u>	Do you want to start the other corner?			I will!		Lilly directs question to Penny..
For his job? I don't know what his name was.	Yep. Yeah it was. That was him. That was my Martin.	You two do that bit. <u>Penny can start the other corner.</u>	Yeah		Yeah.		
			<u>Feet?</u>				
	We're doing feet.						
<u>Yes Boots.</u>							
It is missing some bits <u>though.</u>		It can't be, it is <u>new.</u>					
Well I'm missing. Have you got fire boots?		No. where?			Here!		Christopher points to picture. Bobby holds up a puzzle piece.
That's not it.							Christopher looks under the table. Bobby goes under the

						<p>Are you working together? Bobby, David?</p>	<p>table and starts picking up dropped puzzle pieces. David goes under the table too.</p>
					<p>We lost some.</p>		<p>Bobby and David come out from under the table. Bobby has puzzle pieces in his hands.</p>
	<p>We are working together. I'm with Christopher.</p>					<p>Are you and David working together? Are you helping each other?</p>	<p>Adult directs question to Christopher.</p>
<p>Yes. We've lost some fire boots.</p>							
<p>Which bit do you think we should do next?</p>	<p>Um, the boots.</p>					<p>I don't think so. Why? Are you missing a piece?</p>	<p>Christopher directs question to David.</p>
<p>Are there any pieces missing?</p>						<p>Perhaps you can ask your</p>	<p>Christopher talks to adult.</p>

Yes, <u>the fire boots</u> . The boots for the fireman.			Me too!		I'll help	friends to help you look.	
						Christopher, what can you say to your friends? How can you explain what you're looking for?	Bobby sifts through puzzle pieces.
Can you please help me find this bit?		I've got it! <u>It was on Penny's chair.</u>		Ok		Oh good, there you go. Good spotting Lilly. How are you getting on Penny?	Christopher picks up box and points to the picture of the fireman's boots.
				Yes.		Do you think that you're going to get it finished before it is time to tidy?	Children look for missing piece. Lilly picks it up from Penny's chair.
Can we show it?						If it is	

<p>We've got to get the edges done.</p> <p>We need to do the greeny bits.</p>	<p>Right, put them together.</p> <p>There's none more.</p> <p>No more</p>	<p>No. <u>We have to join them up.</u></p> <p>Yeah. You find them and pass them to us, we'll put them in the middle.</p> <p>We need red bits too, <u>for the fire engine.</u></p> <p>You give the red bits to Penny and you two pass the green bits to us.</p>	<p>I have fire engine bits.</p>	<p><u>Yours goes there.</u></p>	<p>Hey! <u>That's my bit!</u></p> <p>There's a green one.</p>	<p>finished. I'll be back to see.</p>	<p>Christopher, Lilly, David and Penny, join up the different sections that they have been working on.</p> <p>Christopher tries to join Bobby's section.</p> <p>Bobby starts to sift through and pass the green pieces to Christopher.</p> <p>Bobby, David, Penny and Arthur start passing pieces to Christopher and Lilly.</p> <p>Penny takes some red pieces and starts to join them up.</p>
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	green bits.						
There must be. We have to do the background by the pond.			Finished the fire engine.				
Careful or it will break.		That goes in here. Do you want me to do it?	I can put it in.				David and Bobby look under the table and under the chairs.
We still need that bit.							Arthur and Penny try to pick up the puzzle section that they have completed.
		We've done!					Penny and Arthur arrange their section within the puzzle.
Ah-ha! Done!		No. We did different bits and put them together.				Fabulous! So explain to me how you worked together. Were you squabbling?	Lilly and Christopher look around for the missing pieces.
We worked in pairs.	I worked with Christopher. Can we show it?					Were you co-operating?	Bobby and David come out from under the table.

<p>In the box.</p> <p>On the box!</p> <p>Balance it on the box.</p>	<p>Yeah!</p>	<p>We could all put our hands together and balance it.</p>				<p>Yes, you can show it. But I want you first to work out how you're going to get it from the table to the carpet to show. Talk to each other and decide how to move it without breaking it up. Its going to be tricky!</p>	<p>Lilly puts palms out to demonstrate.</p> <p>The children pick up sections of the puzzle, breaking bits and reassembling them on the picture. Christopher carries the box to the carpet area.</p>
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Table 3.1- total number of exploratory statements made across all individual participants (Observation 3-Puzzle).

	Total number of statements made	Total number of statements made which include the key words.	Total number of statements that could be interpreted as exploratory.	Total number of statements made which include the key words as % of total number of statements made.	Total number of statements that could be interpreted as exploratory as % of total number of statements made.
(Observation 3-Puzzle)	129	24	45	19%	35%

Table 3.2 - total number of exploratory statements made by each individual (Observation 3).

(Observation 3-Puzzle)	Christopher	David	Lilly	Arthur	Penny	Bobby
Explicit key words.	9	2	9	1	0	3
Explicit key words and Implied key words.	17	9	18	3	2	5
Statements containing explicit key words and Implied key words as % of total number of statements made by each individual.	47% (17/36)	36% (9/25)	56% (18/32)	21% (3/14)	22% (2/9)	38% (5/13)

Appendix IV - Structured Observation of children in mixed ability group Term 4

Appendix IV – Structured observation 4– (Term 4) – (Drama).						
The children have been read part of a story, they have been tasked with deciding the ending and working together to act it out. The children are in the school hall, they have participated in a class discussion in which some possible ideas for the story had been discussed. The story ended with two characters finding a box. The children now have to decide what is in the box and what other characters are going to become part of the story						
Christopher	David	Lilly	Arthur	Penny	Bobby	Adult
I think we should have the box over here.	No me... we both can yeah? We have two boys yeah?	What's going in it?			I'll be the boy.	Bobby and David are talking to each other. Christopher and Lilly are talking to each other.
An animal?				A dog.	Yeah, I'll be the one in the book and you be another one. Yeah?	
Yeah a dog. Then we have to find the owner.		A lost dog?	Have the box got treasure in?			Lilly swaps between different conversations
	Yeah we could be pirates. I'm a pirate yeah?	We don't know what other people there are yet.				
But what would?		We don't know yet, maybe treasure.	I reckon treasure.		Yeah, I'll be a pirate.	
What would happen? To the treasure?		You wanted to be the boy.	Do you think treasure.			
		It could be magic treasure or something.				
It could have a key.						
A key in the treasure.		That's the Biff and Chip story. So it takes us				Children are sitting together on the floor, Bobby and Arthur start

Ok. Right.		somewhere else.				spinning themselves around.
So. Right, listen. The box has got treasure and a golden magic key. The key glows and takes us to...						Christopher grabs Arthur's leg and stops him from spinning.
Or a jungle?	Yeah a jungle...with pirates.	A castle?				
		Ok, a jungle.				
So we find the key and it takes us to a jungle so then you can be animals.						
Animals in the jungle.		Do you want to be an animal?		Yes.		Lilly directs questions to Penny
A jungle animal. You could be like a snake?	Can I be a tiger?	Yes, so you're a tiger. Do you want to be a tiger too?		No.		David starts crawling and roaring like a tiger.
		What then? A snake?	I'm the monkey.	No.		Bobby starts crawling and roaring with David.
				No.	I'll be a lion.	Arthur starts crawling and roaring too. He changes and starts making 'monkey noises'.

<p>There isn't a dog in a jungle.</p> <p>Ok. Come on then.</p> <p>The box is here.</p> <p>Over here.</p> <p>You're not in it yet. <u>We have to get to the jungle.</u></p> <p><i>Its got a key in it.</i></p> <p><i>Its glowing.</i></p>	<p>Do you want to be a monkey too?</p> <p>Well, what do you want to be then?</p> <p>She could be a lost dog. Do you want to be a lost dog? <u>And we have to take you home?</u></p> <p>Ok, come on, we're ready.</p> <p>We're ready you three.</p> <p>You wait over there to start.</p> <p><i>Huh, look, a box.</i></p> <p><i>Hello. Have you lost your mummy?</i></p> <p><i>Oh, come with us <u>we will help you find her.</u></i></p>	<p>A dog.</p> <p>Yes.</p> <p>Yes.</p> <p>Woof, woof.</p> <p>Woof, woof.</p> <p>Dad not mummy</p>	<p>Lilly, Christopher and Penny stand up. Arthur, David and Bobby are still behaving like their animal characters.</p> <p>Children start acting as there characters. <i>(Acting in italics).</i></p> <p>Lilly starts spinning and Christopher copies her. Both walk over to the others.</p> <p>Lilly pretends to lead Penny, to the other 'animals'.</p> <p>Ha-ha are you a mummy?</p>
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		Is this your mummy?	ooooo-No I'm not her daddy.	Woof, no, woof.		
	Roar -I'm not her daddy - Roar.	Is this your daddy?		Woof, no, woof.		Christopher follows after Penny and Lilly.
		Is this your daddy?		Woof, no, woof.	Roar that's no not me Roar.	Arthur and David and Bobby are still acting as their characters. David and Bobby start to pretend to scratch each other.
		Is this your daddy?				
		Do you want to come back with us and we will take you home.		Woof, yes.		Lilly starts spinning and gestures to Penny and Christopher to spin too.
		You can come and live at our house.		Woof, yes.		
We have to find her Dad. I'm going back to the jungle.		Shall I show you my bedroom? Shall I make you a bed?		Woof, yes.		Christopher spins back to the other animals. Lilly and Penny stay in role, Penny is acting as a dog and Lilly is pretending to make a bed for her.
Somebody has to be the dog the dog dad.	I will.		Me.		I will.	
Ok, Arthur.			Woof, woof, woof, woof.			Christopher

<p>Are <i>you</i> the dog dad. We have found your puppy. Come with me.</p> <p>I've found your dad. He's here.</p> <p>That's the ending. That's the end.</p> <p>Ok. Stop. Stop now, we're done.</p> <p>No, it is the ending now. We have finished.</p> <p>No. <u>We're done. Keep it as it is.</u></p> <p><u>It is good how it is.</u></p>	<p>How about <i>if</i> the tiger and the lion have a fight and then the boy and girl have to break them up?</p>	<p>Shhh, she's asleep.</p> <p>Let her sleep. Do <i>you</i> want some food?</p> <p>Let's practice again.</p> <p>Do <i>you</i> want to practice again. <u>We'll do it again, from the beginning?</u></p>	<p>Woof, wake up daughter.</p> <p>Yes.</p>	<p>How about <i>if</i> the Lion and the tiger kill each other?</p>	<p>starts spinning again. He goes back to Penny and Lilly. Bobby and David start rolling around 'play fighting' in character.</p> <p>David directs a suggestion to Christopher.</p> <p>Bobby directs a suggestion to Christopher.</p> <p>Christopher tells the teacher that they are finished. Lilly and Penny each continue in role, but improvising.</p>
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Table 4.1- total number of exploratory statements made across all individual participants (Observation 4-Drama).

	Total number of statements made	Total number of statements made which include the key words.	Total number of statements that could be interpreted as exploratory.	Total number of statements made which include the key words as % of total number of statements made.	Total number of statements that could be interpreted as exploratory as % of total number of statements made.
(Observation 4-Drama)	118	23	39	19%	33%

Table 4.2 - total number of exploratory statements made by each individual (Observation 4).

(Observation 4-Drama)	Christopher	David	Lilly	Arthur	Penny	Bobby
Explicit key words.	5	1	14	1	0	1
Explicit key words and Implied key words.	15	3	18	1	0	2
Statements containing explicit key words and Implied key words as % of total number of statements made by each individual.	44% (15/34)	31% (04/13)	50% (18/36)	11% (1/9)	0% (0/17)	22% (2/9)

Appendix V - Structured Observation of children in mixed ability group Term 5

Appendix V – Structured observation 5– (Term 5) – (floating/sinking-sorting) – The children have been exploring materials and looking at whether some float or sink. The children have different objects on the table and they are tasked with deciding which will float and which will sink. They have had practical experience of some different objects in the water tray (although, not these objects). They have been told that they have to explain what they think as they go. Record their ideas and then they will test them in the water tray. They have been reminded of previous 'rules for group work', including: We will listen to everyone's ideas; we will explain what we think and why; we will try to agree. The children have a large piece of paper, a wooden block, a piece of lego, a plastic cup, a sponge, a pen, a toy boat, a toy car and a sieve.							
Christopher	David	Lilly	Arthur	Penny	Bobby	Adult	Notes
<p>We have it in the sand. The sand comes out through the holes. But the big things stay in it.</p> <p>Right. I think we should sort them into piles. And then write it down. Sort them first ok?</p> <p>Ok, so we'll put the floating ones here and the sinking ones here.</p>	<p>This will definitely float. <u>Boats float.</u></p>	<p>It is for cooking.</p> <p>Yes, but we have to say what we think.</p> <p>Why do you think that the car will float?</p>	<p>What's this?</p>		<p>The car will sink.</p>		<p>Children picking up the objects. Arthur picks up the sieve. Lilly takes the paper and puts it between her and Christopher.</p> <p>Bobby takes the car and rolls it on the table. David squeezes the sponge and then picks up the boat.</p> <p>Christopher gestures to demarcate</p>

		<p>Sink. Why do you think it will sink?</p>			<p>Sink. I said sink.</p>		<p>an area for different categories, float/sink.</p>
<p>Ok, so you think the car will go in the sink pile. Put the car in the sink pile.</p>	<p>Yes. Do we agree float? For the boat? Yes?</p>	<p>Do we agree? Sink yes?</p>			<p>Coz, cars sink in water. Cars drive into water and sink.</p>		
<p>Put the boat here. The boat will because it is plastic. The car is metal. Is the car metal.?</p>					<p>Yes cars are <u>metal</u> aren't they.</p>		
<p>That car. Is that car metal?</p>					<p>Yeah, this car is. <u>This one</u> is</p>		<p>Penny is holding the wooden block. Bobby is still rolling the car on the table.</p>
		<p>Do we agree with Penny. <u>That the block will sink?</u></p>		<p><u>This</u> is <u>heavy</u>. This will sink.</p>	<p><u>metal</u>.</p>		
<p>Yes the block will.</p>		<p>You think that it will sink because its heavy?</p>	<p>Yeah. I agree, <u>but</u></p>				

<p>Put it in the pile for floating. I'm not sure, I don't think I know about that one. I think it might float and it might sink. It might sink if it fills up.</p> <p>We need the cup over here. Put the cup on the sink pile.</p> <p>The sponge is both. I think the sponge is both. It will float. But then it will</p>	<p>Look. Its gone.</p>	<p>Why do you think that will float?</p> <p>Is it light?</p> <p>The cup will sink, if it fills up.</p> <p>What about the sponge? What do we think will happen to the sponge?</p> <p>Bobby what do you think?</p> <p>Do we agree?</p>	<p>this will float.</p> <p>Because it isn't heavy.</p> <p>Yeah, light. And it is plastic.</p> <p>Put it in the pile.</p> <p>I don't neither.</p>	<p>I don't.</p>	<p>What's gone?</p> <p>Give it to me.</p> <p>Um. I think float.</p>	<p>David has taken the cup and sponge. He has pushed the sponge inside the cup and turned the cup upside down. He turns to Bobby. David lifts up the cup and shows Bobby the sponge. They both laugh. Bobby takes the lego and puts it in the cup with the sponge and turns it upside down. They both laugh.</p>
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<p>sink, as well.</p> <p>That's just for writing. That's not one of them. That's just for writing what we think.</p> <p>Yes, you two do the drawing. <u>Do the both pile too.</u> So like there, there and there. <u>The boat is the only float one.</u> I think the seive and the sponge are both, so make sure that you do a both section. The block and the car will sink, but the cup...I think</p>	<p>Put a both pile.</p> <p>I've got lego. I have lego.</p> <p>I have loads. Rockets and planes.</p> <p>Have you got rockets?</p> <p>Me too. Have you got the bike with orange sides. Its got flames on it, on the sides. Have you got that one?</p>	<p>Do you want us to start writing? Do you want to write too?</p> <p><u>I'll draw the sink ones and you draw the float ones?</u> Yes?</p> <p>Yes? You draw the float ones? So that's these ones. Yes?</p> <p>We need to work together. <u>As a team.</u> We're working together.</p> <p>David do you agree that these are the ones for floating, these are sinking and</p>	<p>Where's the pen going?</p> <p>Oh. Lego then? I think sink.</p>	<p>Just draw them.</p> <p>Yes.</p> <p>Yes.</p>	<p>Yep. <u>But it will float first.</u> It will float at the start.</p> <p>I've got lego. I build loads of lego.</p> <p>What ones? I've got ninja turtles, and Star Wars.</p> <p>Yeah, and the dragon bike. Have you got the dragon bike?</p> <p>I've got a aeroplane with flames on. <u>They go on the wings.</u></p>	<p>Lilly talks to Penny.</p> <p>Christopher gestures to show where to do the drawings.</p> <p>Bobby and David are talking to each other about lego.</p>
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<p>the cup will be in the both section too. If it fills up it will sink, <u>but not if it doesn't.</u></p> <p>We all think that the block will sink, because it is heavy. The boat will float because of its shape.</p> <p><u>Boats are heavy, not this boat, I mean real boats. They are heavy, but they still float. It is to do with what shape they are. The shape makes them float.</u></p>	<p>Yeah, agree.</p>	<p>I these are both?</p> <p>Bobby do you agree?</p> <p>Penny?</p> <p>Arthur?</p> <p><u>And it is plastic.</u></p>	<p>Yep, I agree.</p>	<p>Yes. Are we gonna test them? Do we have to go out? <u>When we're ready.</u></p>	<p>Are you finished then? Explain to me. What have you decided?</p> <p>Because of its shape? Now that's interesting. What made you think of that?</p> <p>That is really interesting. How do you know that?</p> <p>You make boats?</p>	
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<p>I make them with my granddad.</p> <p><u>Not real ones.</u> <u>Pretend ones.</u> But he told me about them. <u>And submarines.</u> <u>There's something special about the shape of them too,</u> <u>coz</u> they are made a different shape.</p> <p>Sieve.</p>	<p>I didn't.</p> <p>We <u>thought</u> that the block would sink, the car would sink, but the cup, sponge and cooking thing would be for both. <u>They could float and they could sink.</u></p> <p>Yes sieve. Is this a sieve?</p>	<p>No.</p>				<p>Fascinating. Did you know any of that Arthur?</p> <p>Nor me. Very interesting. What else did you have in the float category?</p> <p>Sieve yes it is. So what do you mean by both? How will they sink and float David?</p> <p>If it gets water in it? You think it might sink as it fills up with water?</p> <p>Well perhaps it is</p>	<p>Lilly holding up different objects.</p> <p>David picks up the</p>
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	Yeah!	<p>Do we take the paper?</p> <p>We did, but.</p> <p>We did different bits. <u>Me and Penny drew the pictures and we all decided.</u></p>			<p>Yeah!</p>	<p>time to test them. Do you think you need to go outside and see what happens? It will be a good idea, I think. To remind yourselves of what you had predicted. Did you work together? But what? Ok, well carry on together. Go out and test your ideas. Remember to look closely and think about whether what you see is what you thought you'd see.</p>	<p>sponge and squeezes it.</p> <p>Christopher, Arthur, David and Bobby get up and pick up the objects to take them outside.</p>
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Table 5.1- total number of exploratory statements made across all individual participants (Observation 5-floating/sinking-sorting).

	Total number of statements made	Total number of statements made which include the key words.	Total number of statements that could be interpreted as exploratory.	Total number of statements made which include the key words as % of total number of statements made.	Total number of statements that could be interpreted as exploratory as % of total number of statements made.
(Observation 5-floating/sinking-sorting).	137	32	54	23%	39%

Table 5.2 - total number of exploratory statements made by each individual (Observation 5).

(Observation 5-floating/sinking-sorting).	Christopher	David	Lilly	Arthur	Penny	Bobby
Explicit key words.	14	4	8	3	0	3
Explicit key words and Implied key words.	21	5	15	4	1	8
Statements containing explicit key words and Implied key words as % of total number of statements made by each individual.	49% (21/43)	28% (5/18)	42% (15/36)	33% (4/12)	17% (1/6)	36% (8/22)

Appendix VI - Structured Observation of children in mixed ability group Term 6

Appendix VI – Structured observation 6 – (Term 6) (school in woods?)– The children are sat around a table. They have a large piece of paper and some pencils. They have been talking as a class about whether they think that it would be a good or a bad idea to have the school in the woods. This follows on from a class trip to the woods, the previous day. The children have been tasked with writing down what they think, with reasons. They have been told that they have to try to agree, so they will have to try to convince their friends using reasons for why/why not the school should/should not be in the woods.						
Christopher	David	Lilly	Arthur	Penny	Bobby	Notes
Who's doing the writing?		Why?	I think yes. Because it would be fun. <u>We could have dens.</u>			Bobby plays with the pencils on the table.
No you.		I will.				
Lilly's going to do the writing. We need to say what we think.		Do you want to?				Christopher pushes the paper towards Lilly.
I think no.		We can just go round.	I think yes.			Lilly takes a pencil. Lilly gestures to take turns around the table to say what they think.
I think no, because we would get wet when it rains.		<u>We have to give reasons too.</u>				Lilly starts to write.
Yes, but if they were wet, we'd be really wet.		Wait.	I think yes, coz we'd have them tree trunks to sit on.			
			That's neat.			Christopher gestures to show Lilly

<p>Do like lines so there's two boxes. Draw like a line down, so the nos go in one and the yes goes in the other.</p>	<p>I think yes so we can have packed lunch.</p>	<p>Yes but that's a bad thing too. <u>We wouldn't get a hot dinner.</u> The <u>hot dinner people would miss out.</u></p>				<p>how to organise columns on the page.</p>
	<p>I think no then.</p>					<p>Bobby is comparing the sharpness of the pencils in the pot. Looking closely at each one and touching the tips.</p>
<p>Write it in both. <u>It can go in the yes and the no.</u></p>			<p>And <u>our mums would have a long drive.</u></p>			
<p>I think we ought to take a vote. Vote for yes or no.</p>		<p>But some parents might not want to.</p>		<p><u>They could go in a coach.</u></p>		
<p>I'm not sure. I think a bit yes</p>		<p>We haven't written enough reasons yet. What do you think we need for the yes one?</p>		<p><u>We could do the animals</u></p>		<p>Bobby, David, Arthur put hands up. David looks around and puts hand down. Christopher puts hand up.</p>

and a bit no.				with the sticks.		
Yes and the stories on the bench log, log-bench things.			And the dens. We could build the different dens for different things...			(Children are referring back to activities from their trip to the woods, the previous day).
		How would we get the paper and the books there though?	We could have a book den and... a writing den.			
	In our book bags. I've got paper at home.		Drive them.	Drive them in the mornings.	We haven't put names on.	Bobby starts writing his name on the sheet of paper. The others ignore him and carry on with their conversation.
What about bad reasons though. Put about not having shelter.			There was. There was that...um...th at flappy roof.		Where we had lunch boxes.	
But that was flapping, it won't be dry.	Bugs.		Yeah, where we had our lunch.	Spiders. Put spiders.		

<p>We wouldn't have tables to write on.</p> <p>You could make a role-play area from the woods though. <u>A massive den.</u></p> <p>Did you put the muddy shoes? Add the uniform to that one.</p> <p>What about yes. <u>We need more yes reasons.</u></p> <p>Do you want me to write too?</p> <p>What else was there for the nos?</p> <p>No, <u>for the nos one.</u></p>	<p>Or a role-play area.</p> <p>Yeah.</p> <p>It would be funny.</p>	<p>Yes, our parents wouldn't be able to get to different places. <u>Driving to different schools.</u></p> <p>Yes <u>I can't write fast.</u></p> <p>You do those nos and I'll do the yes ones, <u>yeah?</u></p>	<p>And boots. <u>We'd get muddy boots.</u></p> <p>We wouldn't have our sisters or our families.</p> <p><u>We would have muddy uniforms.</u></p> <p>That's neat. My writing isn't that. Isn't like that.</p> <p><u>We could make dens all day.</u></p> <p>Fun.</p> <p>That is well small. <u>My writing isn't small.</u></p>	<p>No.</p> <p>Mud</p>	<p>That would be a good one. <u>I love spiders.</u></p> <p>And muddy bums.</p> <p>Or pencils.</p> <p>We could make dens all day <u>with the axe.</u></p>	<p>Bobby starts to take his shoes off.</p>
--	--	--	---	-----------------------	--	--

<p>I don't do cursive.</p> <p>Well I do, but its neater not joined.</p> <p>I don't, I think no.</p> <p>We have to agree. <u>You've got to change our minds.</u></p> <p>We think no because... We 'd get wet. No hot dinner. Our mum would have a long drive. We would have muddy boots and uniform. No families. No shelter. Mud. Bugs.</p> <p>Does that say uniform? It</p>	<p>I think yes too.</p> <p>Ok, you change our mind then.</p> <p>Let's see.</p>	<p>I do.</p> <p>We need to agree next.</p> <p>We need to say if we think yes or no.</p> <p>I think no too. Penny?</p> <p>Or we change your minds.</p>		<p>I think no, too muddy and lots of spiders.</p>	<p>I do. I think yes.</p> <p>Christopher reads through list from paper.</p> <p>Bobby is putting his shoes back on and picking the Velcro.</p>
--	--	---	--	---	---

<p>doesn't have...That's not how it is spelt.</p> <p><u>It is a 'u'.</u></p> <p>I'll write it.</p> <p>Come on Bobby. <u>If you say no, if you agree no then we are finished.</u></p> <p>Ok.</p>	<p>I do. I agree.</p> <p>Say yes.</p> <p>You think no don't you Bobby? He thinks no too.</p> <p>Come on!</p> <p>Are we done?</p>	<p>What is it then?</p> <p>Oh yes.</p> <p>Do we agree that its no? <u>That it should stay here?</u></p> <p>Bobby?</p> <p>Do you agree?</p> <p>Christopher should. <u>But</u> we have to all agree first.</p> <p>Bobby? Do you say no?</p> <p>Yes. Christopher you do the talking. <u>You read it out.</u></p>	<p>No, he has to <u>say no not yes.</u></p> <p>Who is reading out?</p> <p>Are we done if we agree.</p> <p>Go on!</p> <p><u>We're nearly done.</u></p> <p>Yes! Well done Bobby.</p>	<p>They've finished already.</p> <p>Eerrrr.</p> <p>Eerrrr...Ok.</p>	<p>Huh?</p>
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Table 6.1- total number of exploratory statements made across all individual participants (Observation 6-school in woods?).

	Total number of statements made	Total number of statements made which include the key words.	Total number of statements that could be interpreted as exploratory.	Total number of statements made which include the key words as % of total number of statements made.	Total number of statements that could be interpreted as exploratory as % of total number of statements made.
(Observation 6-school in woods?).	124	39	71	31%	57%

Table 6.2 - total number of exploratory statements made by each individual (Observation 6).

(Observation 6-school in woods?).	Christopher	David	Lilly	Arthur	Penny	Bobby
Explicit key words.	17	4	9	7	1	1
Explicit key words and Implied key words.	26	6	17	18	6	3
Statements containing explicit key words and Implied key words as % of total number of statements made by each individual.	76% (26/34)	35% (6/17)	57% (17/30)	78% (18/23)	67% (6/9)	27% (3/11)

Appendix VII – Comparison between use of exploratory talk in each of the structured observations

Table 7.1 – comparison between total number of exploratory statements made across all individual participants between each observation.

	Total number of statements made	Total number of statements made which include the key words.	Total number of statements that could be interpreted as exploratory.	Total number of statements made which include the key words as % of total number of statements made.	Total number of statements that could be interpreted as exploratory as % of total number of statements made.
Observation 1 (Drawing)	70	12	23	17%	33%
Observation 2 (Shape sort)	114	13	25	11%	22%
Observation 3 (Puzzle)	129	24	45	19%	35%
Observation 4 (Drama)	118	23	39	19%	33%
Observation 5 (floating/sinking-sorting.)	137	32	54	23%	39%
Observation 6 (school in woods?).	124	39	71	31%	57%

Table 7.2 – Comparison between total number of exploratory statements made by each individual, as a percentage of their total number of statements, across all observations.

	Christopher	David	Lilly	Arthur	Penny	Bobby
Observation 1 (Drawing)	50%	33%	39%	9%	0%	25%
Observation 2 (Shape sort)	30%	6%	43%	7%	0%	7%
Observation 3 (Puzzle)	47%	36%	56%	21%	22%	38%
Observation 4 (Drama)	44%	31%	50%	11%	0%	22%
Observation 5 (floating/sinking-sorting).	49%	28%	42%	33%	17%	36%
Observation 6 (School in the woods? discussion)	76%	35%	57%	78%	67%	27%

Table 7.3- No. of statements made by each individual as a percentage of total number of statements made.

		Christopher	David	Lilly	Arthur	Penny	Bobby
Observation 1 (Drawing)	(100%-70)	24% (17/70)	17% (12/70)	23% (16/70)	16% (11/70)	3% (2/70)	17% (12/70)
Observation 2 (Shape sort)	(100%-114)	24% (27/114)	15% (17/114)	31% (35/114)	13% (15/114)	5% (6/114)	12% (14/114)
Observation 3 (Puzzle)	(100%-129)	28% (36/129)	19% (25/129)	25% (32/129)	11% (14/129)	11% (9/129)	10% (13/129)
Observation 4 (Drama)	(100%-118)	29% (34/118)	11% (13/118)	31% (36/118)	8% (9/118)	14% (17/118)	8% (9/118)
Observation 5 (floating/sinking-sorting)	(100%-137)	31% (43/137)	13% (18/137)	26% (36/137)	9% (12/137)	4% (6/137)	16% (22/137)
Observation 6 (School in the woods? discussion)	(100%-124)	27% (34/124)	14% (17/124)	24% (30/124)	19% (23/124)	7% (9/124)	9% (11/124)

Appendix VIII – Example interview questions

Child _____	Parent(s) attending meeting _____
Immediate family _____	
Other significant adults _____	
Previous school/nursery experience _____	
What things does he/she enjoy doing at home/outside of school? _____ _____ _____	
How would you describe him/her? _____ _____ _____ _____ _____ _____	
Who does he/she spend most time with? _____ _____	
Additional information _____ _____ _____ _____ _____	

Appendix IX – Example Research Diary Page

12th Nov.

Spd the difference activity (Aug 8/10/11) Familiar activity
while class - children on carpet 1pm. (recording)

New examples - using language to guide
- arguments, & explaining or children's
- responses, & explaining or children's
- thinking, & explaining or children's
- thinking, & explaining or children's

Transcript

- It is black and that one is white.

- Me - This one?

S - Yes

Me - Oh yes, so it is. Why do you think that is black?

S - It is right. It is a room and that, that one is daytime.

Me - I think you may be right. Yes, this one has a room, it is
nighttime out of the window and this one has a room, it is
daytime out of the window. That is different isn't it?

S - Yes

Me - Are there any other differences?

- The hat

Me - The hat? What about the hat? She isn't wearing a hat.

C - No, the hat on the hat up the side.

Me - Oh here?

C - Yes. On that it is her hat and on that it is wobbly.

Me - Oh yes. Here it is straight and pointy and here it is wobbly.
It is bent and wavy. Are there any other differences?

- Meg has spots on there and stops on there.

Me - Oh yes. Meg is pretty, she even has chinwags.

C - And Meg has hair and there she has different hair

Me - Here? Oh yes. Meg has black black hair and here she only
has straight hair. She isn't wearing a wig.

- Me - Any more? What about the writing? Can you see anything
different in the writing? Who can read it for me?

- It was a lovely day for a picnic.

Me - Well done. 'It was a lovely day for a picnic'. What
about this side, who can read this side for me?

- 'It was a lovely night for a picnic'

- It says it. It says that it is night and day, like
the room in the window.

Me - It does, well done. It says that it is night here, like the
nighttime through the window, and it is day here, like the
daytime through the window. - ^{Convincing, well reading, fact, evening}

Me - Are there any more? ... What about on the hat?

Can you see anything different?

- It is broken

Me - What is broken

- The hat

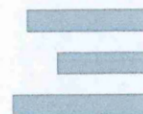
Me - Here? It does have a broken hat, but hang on. It is
broken here too, is that the same?

- Yes

Me - So that will be one of our differences. I hope that Meg gets a
new hat soon, that doesn't look very safe does it? I'd have
something that is different about the hat? Any differences
between this hat and this hat?

C - That is black and it has, it has like hair but not that one
don't look there, it has like hair, black things, and that one
goes straight down.

Appendix X - Example consent form



Dear Parents and Carers,

Thank you to all who came to the meeting about my classroom research on Wednesday. I would now like to ask for consent for your child to be included in the research.

As discussed previously, my research is concerned with exploring the development of children's collaborative group work. I am interested in the way that group work skills develop and whether the teaching of specific rules and language for group activities impacts upon the children's interactions and supports their learning.

The research process will involve recording the children during their usual class activities, using a video camera. The children will also be involved in recording each other and they will have opportunities to view their recordings.

The research will only involve the children during their normal school activities, although opportunity to meet with parents would be useful.

If you are happy for your child to be considered for participation in the research, then please complete the consent slip below and return it to school in your child's book-bag.

If you have any further questions, or would like to discuss the research further, please do not hesitate to speak to me after school or telephone the office to make a convenient appointment.

Sincerely,

Miss E. Kitto.

I give permission for _____ to participate in the research activities.

I understand that this will not affect their usual class activities.

Signed _____ Date _____



Appendix XI – Example of EYFS Profile

Early years foundation stage profile – assessment scales reference sheet

Personal, social and emotional development			Communication, language and literacy			Problem solving, reasoning and numeracy		Knowledge and understanding of the world	Physical development	Creative development
Scale point	Dispositions and attitudes	Social development	Language for communication and thinking	Using words and others	Reading	Writing	Numbers at levels and for counting	Calculating	Shapes, space and measures	
1	Shows an interest in exploring through observation or participation	Plays alongside others	Listens and responds	Joins in with playing	It develops an interest in books	Experiments with some simple words meaning to the marks	Sets some number contexts, such as many, a few	Responds to the addition and subtraction in rhymes and games	Experiments with a range of materials, showing some mathematical awareness	Explores different media and uses a variety of primary materials in representational play
2	Displays confident personal hygiene and personal hygiene with adult support	Buils relationships with others	Communicates freely and happily in the company of others	Intends communication with others and shows greater interest in others	Shows an awareness of others and their feelings	Knows that print conveys meaning	Uses some clearly understood letters and words meaning	Counts reliably up to three objects	Recognises shapes and compares them	Moves with confidence in a variety of ways, showing some awareness of space and direction
3	Displays high levels of involvement in all chosen activities	Takes turns and shares with adult support	Expresses needs and feelings in appropriate ways	Talks actively through, responding to and following others	Understands sounds to listen to	Recognises a few familiar words	Recognises some words correctly in writing	Counts reliably up to ten objects	Describes shapes in simple models, drawings and patterns	Moves with confidence in a variety of ways, showing some awareness of space and direction
4	Shows and understands own feelings and recognises own personal hygiene	Works in pairs or groups of three, taking turns and sharing fairly	Shows a range of feelings and appropriate responses	Listens with enjoyment to stories, rhymes, songs and stories, responds with relevant questions or actions	Knows that in English, print is read from left to right and top to bottom	Writes own name and other words from memory	Writes own name and other words from memory	Relates addition by combining two groups	Talks about, recognises and names simple shapes	Moves with confidence, imagination and safety, showing some awareness of space and direction
5	Selects and expresses own feelings and recognises own personal hygiene	Forms good relationships with adults and peers	Has a developing respect for own feelings and those of others	Uses language to describe feelings and experiences	Holds a pencil and writes simple words from memory	Writes simple words from memory	Writes simple words from memory	Refines subtraction by taking away	Uses everyday words to describe patterns	Demonstrates fine motor control and coordination
6	Considers the consequences of own actions and those of others	Understands that there are different feelings and those of others	Has a developing respect for own feelings and those of others	Hears words with others in a variety of contexts, such as stories, rhymes, songs and stories, responds with relevant questions or actions	Writes a range of words in words	Writes a range of words in words	Writes a range of words in words	Recognises numbers 1 to 10	Uses everyday words to describe patterns	Demonstrates fine motor control and coordination
7	Is confident to try new activities, interests and ideas in a familiar group	Understands that there are different feelings and those of others	Has a developing respect for own feelings and those of others	Hears words with others in a variety of contexts, such as stories, rhymes, songs and stories, responds with relevant questions or actions	Writes a range of words in words	Writes a range of words in words	Writes a range of words in words	Recognises numbers 1 to 10	Uses everyday words to describe patterns	Demonstrates fine motor control and coordination
8	Shows interest and involvement in activities and ideas in a familiar group	Understands that there are different feelings and those of others	Has a developing respect for own feelings and those of others	Hears words with others in a variety of contexts, such as stories, rhymes, songs and stories, responds with relevant questions or actions	Writes a range of words in words	Writes a range of words in words	Writes a range of words in words	Recognises numbers 1 to 10	Uses everyday words to describe patterns	Demonstrates fine motor control and coordination
9	Shows interest and involvement in activities and ideas in a familiar group	Understands that there are different feelings and those of others	Has a developing respect for own feelings and those of others	Hears words with others in a variety of contexts, such as stories, rhymes, songs and stories, responds with relevant questions or actions	Writes a range of words in words	Writes a range of words in words	Writes a range of words in words	Recognises numbers 1 to 10	Uses everyday words to describe patterns	Demonstrates fine motor control and coordination

Appendix XII - Example assessment sheet for writing (APP)

[illegible]

Appendix XIII - Example Intervention Literacy session

Learning objectives	Activities
<p>Learn to read the high-frequency word: and. Learn to read the tricky words: to, the.</p>	<p>Reading high-frequency and tricky words</p> <p><i>We are going to learn to read three words today. I've got a sentence to show you. I will read it to you and then we will look carefully at the words we are learning. Display the sentence: 'The dog and the cat ran to the man.' Read it to the children; pointing to each word as you read. This sentence is about what Pip saw on the way to school. The first word we are going to read is 'and'.</i></p> <p>Make the word 'and' with magnetic letters on the board. Sound-talk the word and add sound buttons under each grapheme. Blend the phonemes to read the word.</p> <p>Ask the children to sound-talk and blend the word with you. Then turn to a partner and say the word to one another.</p> <p><i>There are two more words in this sentence that we are going to learn to read. These are tricky words because they have one or two letters that do not make the sounds we have been learning.</i></p> <p>Reread the sentence, emphasising the word 'to'. Make the word with magnetic letters on the whiteboard: to. Sound-talk the word and add sound buttons under each grapheme. Blend the phonemes to read the word together; turn to a partner and say the word to each other.</p> <p>Talk about the tricky bit. The letter 'o' is not short as it is in the words they know such as 'top', but it makes a long /oo/ sound.</p> <p><i>There's one more word to look at today. This word has some tricky letters too. Reread the sentence once more emphasising the word 'the'.</i></p> <p>Make the word 'the' with magnetic letters on the whiteboard. Add a sound line under 'th' and a sound button under 'e'. Talk about how to enunciate the /th/ sound correctly for this word; it is 'unvoiced'. Ask the children to put the tip of their tongue between their teeth and to make a continuous /th/ sound.</p> <p>Read the word together several times. Then ask the children to turn to a partner and say the word to each other.</p> <p>Talk about the tricky bit: sometimes we use two letters 't' and 'h' to write one sound: /th/.</p>

Learning objectives	Activities
<p>Reading, writing, talk</p> <p>10 minutes</p> <p>Practise blending phonemes to read words.</p>	<p>Hunt the toy</p> <p><i>Pip has brought some of his favourite little toy animals to school. He's hidden them and we've got to find where they are. To help us find them he's written some clues. Show us the first clue, Pip.</i></p> <p>Pip shows clue card that reads: in the tin</p> <p>Ask a pair of children to blend the phonemes to read the words. Draw attention to the tricky word 'the' that they have just practised. Ask them to look for the tin and show everyone what's inside, for example a small toy dog. <i>It's a dog! Let's say 'dog' in sound-talk: d-o-g.</i></p> <p><i>Show us the next clue, Pip.</i></p> <p>Pip shows the clue card that reads: in the pot</p> <p>Ask another pair of children to blend the phonemes to read the words. If necessary draw attention again to the word 'the'. Ask them to look for the pot and show everyone what's inside, for example a small toy pig. <i>It's a pig! Let's say 'pig' in sound-talk: p-i-g.</i></p> <p><i>Show us the next clue, Pip.</i></p> <p>Pip shows the clue card that reads: on the mat</p> <p>Ask the last pair of children to blend the phonemes to read the words. Ask them to look for the mat and tell everyone what's on it, for example a small toy cat. <i>It's a cat! Let's say 'cat' in sound-talk: c-a-t.</i></p>
<p>Review learning</p>	<p>TA: What did we learn today?</p> <p>All: <i>We learned to read the tricky words 'and', 'the' and 'to' and we learned how to blend phonemes to read words so that we could read some clues.</i></p> <p>(Note: There is no independent Take Away task today, but look for opportunities to reinforce recognition of the words 'and', 'the', 'to' in and around the classroom.)</p>
<p>Resources</p>	<p>Set of letter cards: s, a, t, p, i, n, m, d, g, o, c, k (Resource PCM A)</p> <p>Sentence on the whiteboard: <i>The dog and the cat ran to the man.</i></p> <p>Clue cards: in the tin, in the pot, on the mat (PCM 1)</p> <p>A tin containing a small toy dog</p> <p>A pot containing a small toy pig</p> <p>A small mat (for example a mouse mat) with a small toy cat on it</p>

Appendix XIV – Example Intervention Numeracy session

Session One

Week One Theme: Fish

Teaching Points	Activities
<p>Mental Starter</p>	<p>Ask the children how high they think they can count. Count together 1-10 and from 10-0. Repeat and clap once for each number.</p> <p>Begin to teach the children the song "12345 Once I caught a fish alive".</p> <p>Show the children the fish shapes. TA: How can we find out how many there are? Count them out together with the numbers facing down.</p> <p>Put the fish in the "pond" still with the numbers facing down. Ask the children individually to pick a fish, turn it over and say the number name (say it with them if necessary)</p>
<p>What are we going to learn?</p> <ul style="list-style-type: none"> To count up to 10 things 	<p>Use these activities to help the children get familiar with the room. Count together</p> <p>TA: How many chairs are there in here?</p> <p>TA: How many tables are there?</p> <p>TA: How many windows?</p> <p>TA: How many doors?</p> <p>TA: Let's have a number hunt. How many number 4s can you spot around the room? Repeat for other numbers.</p> <p>Put a few of each seaside shape in the pond.</p> <p>TA: How many seashells can you find?</p> <p>TA: Can you get me 9 shells</p> <p>Repeat the questions for different numbers and shapes.</p>
<p>What can we now do? Or do we need to practise it?</p>	<p>Discuss with the children that we have been counting things up to 10. Ask them to practise this in class and at home</p>

Appendix XV - Comments related to ability made by support staff

Comments overheard by staff members relating to 'ability'.(included with retrospective permission)

- Have you met the mother though, the apple doesn't fall far from the tree with that one.
- My daughter was at school with her mum, the stories that I can tell you...Her kids never stood a chance.
- The brother was the same.
- There's seven of them living in that house. I hear them, they're wild. She probably comes to school for a rest that's why she doesn't want to do the work.
- He tries hard, but it just doesn't seem to sink in.
- He's up till all hours, he doesn't have breakfast, he always looks like he's just rolled out of bed.
- They don't talk to him. He's just plonked in front of the TV or computer games and he never has a conversation. Its no wonder that he can't talk yet.
- She's been through so much. She's missed so much. She'll never catch up.
- He's not that bad when he wants to be. He'll only do the things that he's interested in.
- No big shock there, he was like that in Class 1. He wanted everything done for him. He didn't want to do anything himself. If he could get away with it he'd do nothing all day every day.
- She's off the wall. I love her, but she's never going to be a brain surgeon and she just disrupts everyone else.

Comments grouped into 3 broad categories -

'Innate incapacity for learning.'

- Have you met the mother though, the apple doesn't fall far from the tree with that one.
- My daughter was at school with her mum, the stories that I can tell you...Her kids never stood a chance.
- The brother was the same.
- He tries hard, but it just doesn't seem to sink in.
- She's off the wall. I love her, but she's never going to be a brain surgeon and she just disrupts everyone else.

'Chaotic/disrupted home life'

- There's seven of them living in that house. I hear them, they're wild. She probably comes to school for a rest that's why she doesn't want to do the work.
- He's up till all hours, he doesn't have breakfast, he always looks like he's just rolled out of bed.
- She's been through so much. She's missed so much. She'll never catch up.
- They don't talk to him. He's just plonked in front of the TV or computer games and he never has a conversation. Its no wonder that he can't talk yet.

'Laziness'

- He's not that bad when he wants to be. He'll only do the things that he's interested in.
- No big shock there, he was like that in Class 1. He wanted everything done for him. He didn't want to do anything himself. If he could get away with it he'd do nothing all day every day.

Appendix XVI - Comments related to intervention groups made by support staff

Comments overheard by staff members relating to intervention groups (included with retrospective permission)

- My group don't mess around. They don't try that with me. They wouldn't dare, they know me too well, I wouldn't stand for it.
- It is heart-breaking having to take some of them out of lessons. They don't want to leave their friends to do more Maths or more writing. They miss out on all of the Art or all of the PE lessons, they are the ones who need all that the most.
- We had a breakthrough moment in group today. After how many weeks of practising counting in tens, *Child's name* finally got up to 50. Maybe by the end of the year we'll have got to 100.
- All this time and energy always goes on the naughty ones. The one's who listen, always get on with the work, always concentrate, they should be the ones who get more help.
- People used to have such a laugh at this school. It was such a happy place to be. Now all we do is Literacy and Numeracy, just so she [the head teacher] can make herself look good. They are missing out on so much by doing these groups and they don't even help them. They're not getting any better in class.
- How are we supposed to get work out of them when the teacher can't. We'd be better off taking the ones that want to do well.
- Some of them want to learn, but the others take up all of the time. By the time you've settled them down, the others have lost interest. Some of them should get one-to-one or nothing, they are too disruptive to have in a group
- They're not near the same level. The books are too hard for some of them, but if you give them easier ones then the others just get bored. If they read at home then they wouldn't need all this extra help

Appendix XVII - Transcript extract of children in whole class activity

DAVID- (pointing) – there on that black bit.

ADULT- How else could you explain it to me? What words could you use to tell me where the difference is?

DAVID- (pause) the black bit (pause) on that side.

LILLY- He means the pocket. One side hasn't got a button and one side has.

ADULT – Can you let David explain it to me?

LILLY- (to David) you mean the button don't you?

DAVID- (to adult) yeah the button, it needs a button on that side.

Appendix XVIII – Example interaction in literacy activity with low ability group

Example interactions within Literacy lesson, children grouped by 'ability'.

The children are tasked with writing a recount of how they planted their seed. All children have had a whole class discussion, with pictures taken during the seed planting. They were focussing on sequencing each aspect of the activity and including time connectives. The children have worked in pairs on some shared composition and shared writing.

Example interaction during Literacy lesson, with 'low ability' group, supported by class TA.

Children are seated around a table, they each have their own Literacy book as well as phoneme cards, pencils, whiteboards and pens that are in the centre of the table. (This excerpt is from the start of the group activity).

TA- Right, looking and listening, let me see that you're ready (TA exaggerates sitting up straight and widens eyes.) So, David, what was the first thing that you did when you planted your seed?

David- I got a pot.

TA- Ok. So 'first I got a pot'. What sound can you hear? What are you going to write first?

David – 'f' 'f' 'ir'.

TA- That's it f, ir, s, t (segments word into phonemes). So what letters do you need? (Shows phoneme card.)

David- (Points to 'f'). Then...(pause)...is it 'e, r'?

TA- No its 'i'. 'Eff, igh, ar, es, tee' 'first'. Do you want me to write it for you? Here (takes whiteboard from table centre). What was your whole sentence?

David – Um. I got a pot.

TA – (Writing on whiteboard) 'First I got a pot'. There you go.

TA – Bobby, what are you going to write?

Bobby – First I got a pot.

TA – No, think of your own idea.

Bobby – Err, I put mud in.

TA – No, what did you do first?

Bobby – Err, I got a pot.

TA- Ok, how do you write 'I'?

Bobby-(looks at David's writing and forms 'I' in the air).

TA – Don't just copy, think about it yourself.

Bobby – (Draws 'I' again in the air. Looks again at David's writing) 'g, o, t'.

TA – Come on, try to work it out by yourself. Don't just copy. Come and sit over here, and let David get on. (TA moves Bobby to another seat, further away from David).

Appendix XIX - Example interaction in literacy activity with middle ability group

Example interaction during Literacy lesson, with 'middle ability' group, working independently.

Children are seated around a table, they each have their own Literacy book as well as phoneme cards and pencils. (This excerpt is towards the end of the group activity).

Arthur – How do you do 'after'?

Child A – 'ar', 'f', 't', 'er'. (picks up phoneme card) Look 'ar', 'f', 't', 'er' (pointing to each picture on phoneme rainbow).

Arthur-Thanks.

Child A- Did you write 'after that'? I've used 'next', 'then', I'm gonna use 'after that' next.

Arthur – For the water? You using 'after that' for the water? (Looking at Child A's work).

Child A – Yep.

Arthur – Me too! (Laughs) What you doing for the mud one?

Child A – I've done that one (holding up work and pointing) I did 'then'.

Arthur – (Holding up work and pointing) Me too! What one are you using then? After the 'after that' one?

Child B – 'Finally'. You use 'finally' for the end one. If its your end one, you use 'finally'.

Child A – 'finally', yeah, its the 'finally' one.

Arthur – Me too. I'm doing 'finally' for the end one. (Looking at Child A's work, which had large full-stops on, Arthur goes back and puts dots on each line of writing.)

Arthur - (to child B) Have you done full-stops?

Child B- Yeah (holds up writing)

Arthur – Me too look (Holds up writing).

Appendix XX - Example interaction in literacy activity with high ability group

Example interaction during Literacy lesson, with 'high ability' group, working independently.

Children are seated around a table, they each have their own Literacy book as well as phoneme cards and pencils. (This excerpt is towards the middle of the group activity).

Christopher – Did you do a bean or a sunflower?

Child C – Sunflower.

Christopher – I did a sunflower, I've done one before. I've got a picture from when I was a baby standing next to a massive one. Its taller than my dad, about up to the ceiling here.

Child D – I did a bean. I've done a sunflower before, it was so tall.

Lilly – I did a bean. Which one is yours? (Looks to group of seed pots).

Child D – (Gets up and gets seed pot) Its not growing yet, I've got zig-zags on my name though. (Goes to put seed back). Which one's yours?

Lilly – (Pointing) It is the one at the front. I drew Jack from Jack and the beanstalk on it (laughs).

Child D – (Laughs) That's clever. I don't think mine will grow. We did cress in class 1. Mine was the worst one.

Christopher – I remember that (laughs), it was hair for the face but my eyes kept falling off. (Laughs).

Appendix XXI – Example interaction of TA with children from different ability groups

Example of interaction during Numeracy lessons.

Transcript of interaction by TA with 'low ability' group.

Activity – Children are in the outside area of the classroom, they have large number tiles 1-20, a large whiteboard and writing markers. The children have been learning about 'counting on' from a number to find complete addition number sentences.

TA – So, we've got to do 6 add 4. Stop jumping. Stand still. Are you listening? Right, thank you. Are you looking David? Right, 6 add 4 equals (writes addition sentence on whiteboard).

David – 8.

TA – No, wait, we've got to jump along the line. Who's going first?

All – Me/I will/can I?

TA- Right, Bobby. Start at 6. Go to number 6. (Bobby stands on the number 6 tile) How many jumps are you going to do?

Bobby - 6.

TA – No, you've got to work out 6 add 4. So you start at 6 and jump on 4.

Bobby – (Starts to jump).

TA – Wait a minute, go back to 6. (Turns to group) What number do you think that Bobby will end on?

Child A – 10.

TA – 10, you think, well let's see. Go on then Bobby, 4 jumps. 1...2...3...4 What number are you on?

Bobby – 10

TA – 10. you are right. Bobby, come and write it on the board. (Turns to group) How is Bobby going to write it?

David – a 1 and a 0.

TA – Well done, now who's turn next?

Example of interaction during Numeracy lessons.

Transcript of interaction by TA with 'high ability' group.

Activity – Children are sat around tables within the classroom. They have small number lines (1-100), Maths questions written on cards, their own Numeracy books, pencils and whiteboard markers. The children have been learning about 'counting on' from a number to find complete addition number sentences.

TA – Are you ok? Are you stuck?

Lilly – I don't know. I think so. I'm not sure.

TA – What's the problem?

Lilly – I keep getting to 62 but its not right.

TA – How do you know that its not right?

Lilly – Because they said that its 67 (pointing to rest of group)

TA – Ok, let me look. Which one are you on? This one? (pointing to a written number sentence).

Lilly – Yes.

TA – Ok, so how did you work out the other ones?

Lilly – Um, I jumped in tens.

TA – Ok, so for this one (pointing to previous addition sentence) tell me how you worked it out.

Lilly – I started at 14 and then drew the jumps, then I landed on 34. Then I had to jump 2 more, so I got to 36.

TA – Right, so you had to split the number into tens and units?

Lilly – Yes.

TA – So for this one (pointing to a number sentence) how many tens and how many units?

Lilly – 2 tens and 5 units. Oh. (pause) I don't think that I added the last bit.

TA – The units? Well try it and see. Where do you have to jump from?

Lilly – 42 (draws groups of 10 jumps on number line). That's 62, then 5 more.

TA – is?

Lilly – 67.

TA – Is that what they thought?

Lilly – Yes. (smiles).

TA – Do you get it now? Do you want to do another one?

Lilly – I'm ok. I think I get it. (smiles).

TA – Well done, you're very good at your Maths work, let me know if you need me any more.

Appendix XXII - Example interaction in intervention group

Example of intervention activity group – focus on addition.

The children are sat around a table in the infant library area. The TA has prepared cards with + and = symbols on, post-it notes with numbers 1-10, milk bottles, pictures of houses, learning objective and questions (written on paper). This activity builds on previous learning within the intervention programme and therefore some of the activity has been practised previously, the children had practised 'counting around in a circle' several times previously. (6 children including Bobby and David).

TA – (holding learning objective) This is what we are going to be learning today. We are going to learn what these symbols mean.

Bobby – That one is add. That's the add sign. (Bobby stands up and points to the add/plus symbol on the objective.)

TA – Sshh, wait a moment. It is listening time first Bobby. Sit down.

David – Add and equals. That one is add.

TA – sshh shush. Let's let everybody listen first. So...We are going to be learning what these symbols mean. We have the add/plus sign and the equals sign. We are going to be learning about adding up and using these signs today. But first we need to practice our counting. Counting up to 20 and back again. Counting in a circle. Hmm (looking around at the children sitting) who is going to start counting, who shall I start with? I'm going to choose someone sitting nicely, who's sitting really nicely? (Children sit up in an exaggerated manner). *Child's name* – you start and we'll go around this way to 20. If I say stop then you stop and then we'll start counting again from the next number. Ready? Go!

1-2-3-4-5-6-7-8-9...(Children say one number at a time individually)

TA – Stop! So we stopped at 9, you have to start again from the next number.

10-11-12-13-14-15

TA – Stop!

16-17-18-19-20

TA – 20 stop. Now we are going back again. So 20...

20-19-18-17-16-15-14-13-12-11-10-9-8-7-6-5-4-3-2-1

Bobby – Blast off.

TA – No, not blast off...Zero. Do it with me. 5-4-3-2-1-0

Bobby – 4-3-2-1-0. (joins in with TA)

TA – Well done. Now let's look at these symbols. (holds up + and = signs.) Who can tell me what these symbols mean?

Child A – Add and ..

TA – Wait a moment. What have you forgotten? What do we have to do? (TA puts her hand in the air).

Child A – (Puts her hand in the air) Add and equals.

TA – Yes, add or plus and this one is equals. You should wait though. We don't have shouting out, even with your hand up. So equals means 'altogether'. What does altogether mean?

Child B – Together.

TA – Hand up remember. But yes, sort of. Altogether means together. A big group together. So (writes 3+2= on the whiteboard.) What does this mean? We've got three add two equals? Equals what? Three add two? How many altogether?

(All children put their hand up, Bobby, David and 2 other children stand up with their hands up)

Bobby – Its 5. 3 add 2 equals 5.

David – Yep 5. I got that 5.

TA – Boys, sit down. You know that we don't shout out. We don't have calling out in our group do we?

Child's name What do you think it is?

Child B – 5

TA – It is 5. Well done. And well done for not shouting out. So, three add two is 5 altogether (gestures 'altogether' with arms). Let's have a look with our milk bottles. (Puts three milk bottles by the picture of one house and two milk bottles by the picture of the second house. So 3 milk bottles and 2 milk bottles is 5 milk bottles altogether. Let's try another one. If I have 4 milk bottles and 1 milk bottle (Puts milk bottles by each picture of houses) How many milk bottles altogether?

(Children put their hands up).

TA – Wait a moment, lets write it down with the symbols first. (Writes $4+1=$ on the whiteboard.) Four add...Read it with me...

All – Four add one equals 5.

TA – Well done. Right. Now. I'm going to give you some bricks. Just like the milk bottles, see if you can use the bricks to answer these questions. (Puts post-it notes on white board with + and = signs.) Take some bricks each and see if you can do the first one.

Child A – 8. 5 and 3 is 8.

TA – Show me with the bricks. How many bricks do you need.

Bobby – Done it 5 add 3 is 8. 5 there 3 there 8.

TA – Do the next one then. Use the bricks.

(David is building a tower with all of the bricks.)

TA – David, just take the bricks you need. You have to work out 5 plus 3. So get 5 bricks and 3 more bricks., how many bricks altogether.

David – 8.

TA – Ok, show me with the bricks.

(Children are looking through the box of bricks and taking out specific colours.)

TA – Don't worry about the colour, it doesn't matter about the colour. Use the bricks to show me 5 add 3 more.

(Children carry on taking bricks out of the box and building towers from specific colours.)

TA – Ok. Stop for a minute. Stop. Sit down, on your chairs. Sit down on your bottoms. Show me good sitting. (TA takes the box of bricks away)

TA – Put the bricks back in the box (holds the box out) Let's do one together. Now, take out 5 bricks. Count out 5 bricks each. (Children take 5 bricks each). Have you all got 5? Count them. (Children count 5 bricks). Now take 3 more bricks. How many bricks altogether? How many have you got Bobby?

Bobby – 8.

TA – 8. Well done. $5+3=8$. Have you all got 8?

All – Yes.

TA – Right. Let's look at some questions and see what we have learned. (Holds up question written on paper and reads it) Are you looking? Let's see who can put their hand up and answer the question. Let's see who's been a good learner. You ready? ... What does this symbol mean? (Points to + sign).

Bobby – (Puts his hand up) – I know.

TA – Ok Bobby what do you think?

Bobby- it means add.

TA-What do the rest of you think? Is Bobby right?

All – Yes.

TA – Next question. Are you ready? (Holds up the next written question) ...What does this symbol mean? (Points to = sign).

(All put hand up)

TA – *Child's name* What do you think?

Child C – Equals.

TA – Equals, yes. What's another way of saying it? What else does it mean?

Child C – Together.

TA – Altogether. That's right. How many altogether. So read this for me what does this say? (points to $2 + 3 =$ on whiteboard.) Let's read it together. Are you ready? (Points to each symbol slowly).

All – Two add three equals

TA – Well done...Can anyone work out the answer.

Bobby – 5.

TA - Well done. We have done some good learning today. You have been good learners and now we know what the plus and equals signs look like. Right, let's get back to class. Push your chairs in. Chair.

(Children return to class with TA)

Appendix XXIII – Example interaction in free choice activity

Example interaction during 'free choice' activity - Skittles – Christopher is playing skittles with another boy (Child A). They are in the outside area of the classroom. They have a large whiteboard, pens, a ball, numbered skittles and a variety of different resources/games/apparatus around them. Christopher and Child A have already started playing and have created a score board on the whiteboard.

Arthur- Can we play.

Christopher – After this go, we're still scoring. When we get to the end of this score. Ok?

Arthur – ok. (Another child with Arthur goes off to play something else. Arthur waits and watches).

Christopher – You put them back up when we roll. Ok?

Arthur – Yeah (moves to the skittles end of the game) I'll put them back up, when you've knocked them down. I play bowling. I'm good at bowling.

Christopher – Move to there though, move that way.

Child A – I'm on 37 and Christopher is on 34. I'm winning.

Christopher – But you're a go ahead. I haven't had my go yet. So we don't know who's winning yet.

Child A – I am winning though. For now. I am winning for now.

Arthur – I've won before. I won at bowling.

(Christopher rolls the ball and knocks down some skittles. Arthur starts to put them back up.)

Christopher – Wait! We've got to add it up.

Arthur – You got a 3, and 1, and 6.

Christopher – No, we double the back ones. We double them, coz they are harder. So its 1, 3 and 12, so it is 16.

Arthur – 16. Yeah.

Christopher – So that's 44 that's 50. I'm on 50 first, so I win. I'm the winner. The winner is the first one to 50. So I'm the winner. Start again (rubs score board off.) Start again with Arthur now.

Child A – I'm going in.

Christopher – Do you want me to go first? I'll show you.

Arthur – I know how to do it. I've done it before. I've won before.

Christopher – (rolls ball) 1,2,3, so it is 6. I got 6. (writes score on board and puts skittles back up.)

Arthur – (rolls ball) 4 and 5. 4 add 5 equals...

Christopher – No. They're back ones. They are both back ones, so they are doubled. Do you want to double the back ones. Or just add the score.

Arthur – Um, double them.

Christopher - Double the back ones. Double these ones, but not the front ones. So 4,5,6 we double them. But 1,2,3 we don't. Yes?

Arthur – Yep, ok. So...

Christopher – So, you can do double 4 and then double 5, or add them together and then double that. It is 18 though.

Adult – Hang on Christopher, let's check that. Arthur, can you check the score? What skittles did you put down?

Arthur – 4 and 5. it is 18.

Adult – How is it 18?

Arthur – Coz...it is doubled.

Adult – Explain to me how to double the score. How did you get to 18?

Arthur- (looks at hands and starts counting fingers). Um (looks at adult)

Adult – So you got 4 and 5. What is 4 add on 5 more (shows '4' fingers and '5' fingers)

Arthur – (counts adults fingers) – 1,2,3,4...5,6,7,8,9. 9.

Adult – So 4 add 5 is 9.

Christopher- but we are doubling it. So it is 18.

Adult – So Arthur, what is doubling? What does doubling mean?

Arthur – It is adding...It is when you like...add.

Adult – Adding? So is 4 add 5 doubling?

Arthur – No. It is the same. So 1 add 1, 2 add another 2.

Christopher – Yes it is when you add the same again, so double 2 is 4, double 4 is 8, double 10 is 20, double 100 is 200, double 1000 is 2000. So you add the same number twice.

Adult – Ok, so Arthur, if we want to double your score, if we want to double 9. We need to say 9 add on 9 more. Do you want to borrow my fingers? (holds up 9 fingers) so my 9 add on your 9, show me your 9.

(Arthur counts his 9 fingers) now add together.

Arthur – (counts all fingers) 1,2,3,4,5,6,7,8,9,1

Adult – No, it isn't back to 1 is it? What comes after 9?

Arthur – doh. I forgot. 1,2,3,4,5,6,7,8,9...10,11,12,13,14,15,16,17,18.

Adult – 18. So what is double 9?

Arthur – 18.

Adult – (cheers) Yeah!

Christopher – That's what I said. I said that. There is another way to do it too. You can double 4 and then double 5 and then add them together too.

Adult – you can, but I think just stick to one way for now. Stick to one way so that we don't confuse ourselves. Arthur, write your score up.

Arthur – Its a 1 and a 8. I'm on 18 and you're on 6.

Christopher – It doesn't matter. Winning doesn't matter. It is the taking part that matters. It is the taking part isn't it?

Adult – As long as you are working together and having fun, then that is what matters. Who's go is it?

Christopher – Its my go. You have to put yours back up. (Arthur puts the skittles back up and Christopher rolls. Adult is watching). Yes! Aahh, that was nearly a strike. I nearly got a strike. I got 1,2, 3, 4, 5. Just 6 left. (Arthur pretends to blow it down and laughs).

Arthur – I've had a strike. Bowling. You add it and I write it down.

Christopher – Double the 4 and the 5, so its 8 and 10...18 and then 6 so it is...20...24. I got 24.

Arthur – I'll write 24. 2 and a 4.

Christopher – No, you have to add it. Add it to the last one. 24 add 6. So write 30.

Arthur – 1 and a 3?

Christopher – No 3 and a zero. (writes it in the air.)

Arthur – You're on 30, I'm on 18. (Rolls ball).

Christopher – 6. so it is double 6. Do you know what double 6 is?

Arthur – Yeah, it is (holds up 10 fingers), um, it is (counts out 6 fingers.)

Christopher – It is 6 add 6. Do you want my fingers?

Arthur – Yeah.

Christopher – Count them, your 6 and my 6.

Arthur – 1,2,3,4,5,6...(pauses)

Christopher – 7

Arthur – 7,8,9,10,11,12. 12. I got 12.

Christopher – 12. add that to your 18. Do you know how to? Do you want me to? It is 30. You are on 30 too. We are on the same score.

Arthur – We are drawn. We are drawing. We are the same. (writes 30 on scoreboard, but transposes 3).

Christopher – Yeah, but its my go. The winner is the first one to 50, so I need 20 more. If I get 20 this go then I win. 30 is the other way, the 3 goes the other way. (Christopher takes pen and writes 30 on scoreboard.)

Arthur – Yeah, I need 20 too. (Arthur puts skittles back up.)

Christopher – (throws ball, and adds total score.) – 16. I got 16. where's the pen. 30 and 16. ohh, I still need 4. I've got 46, you're on 30. I need 4 more. I've still got to get 4. I will get 4 next go. Probably. I probably will get 4 next go.

Arthur – What do I need again?

Christopher – 20. you still need 20.

Arthur – 20. Ok. 20 (Rolls ball hard and knocks down all of the skittles) Yeah!! Strike! I got a strike!

Christopher – You were a bit close though, that was a bit close. We need a line back here, you should throw from back here. Do you want to take it again. Do you want to take it from back by the line.

Arthur – No. Is it 20? did I get 20?

Christopher – you got 1 and 2 and 3, so that's 6. but then you double 4 and 5 and 6. But you were close. You did start too close. But I'll let you. I'll let you keep it, but it isn't really fair. It isn't really the rules.

Arthur – I won! Did I win?

Adult – Well work out your score Arthur. What's double 4?

Arthur – Double 4 is...double 4 is...4 add 4.

Adult – 4 add 4, yes so 4 add on 4 more is?

Arthur – (counting fingers) 8.

Adult – 8. exactly. What about double 5 what is double 5?

Arthur – 5 add 5...10.

Adult – and what about double 6? we had that one before... 6 add on 6 more. (holds up 6 fingers, Arthur counts)

Arthur – 1,2,3,4,5,6...7,8,9,10, 11. 12, double 6 is 12.

Adult – 12 add 10 add 8. Christopher, can you do 12 add 10 add 8?

Christopher – 30.

Adult – well done, it is 30. How did you do it?

Christopher – 12 and 8 is 20 and then 10 more is 30.

Adult – Wow, you are good at addition.

Arthur – I won!

Adult – Christopher what is double 30? What is Arthur's total score. He's got 30 and adding on 30 more, what is his total?

Christopher – 60. But it was a bit unfair though. He was a bit close. We need to draw a line to shoot from.

Adult – Perhaps you could draw a line with the chalk next time.

Christopher – like darts. And bowling.

Adult – Oh, I forgot the other 6. We need to add on the other 6 too. So 60 add on 6 more Arthur. 61,62,63,64,65,66. So you scored 66.

Arthur – I got 66. Do you want to play again? Do you want to start again?

Christopher – I put a line though. (Christopher gets some chalk and draws a line on the ground. Arthur puts the skittles up). That's the line. You have to stand behind the line to shoot. Do you want to go to 50? or 100?

Arthur – Yeah 100.

Christopher – Can you do to 100?

Arthur – Yeah, I can count to 100.

Christopher – But can you add to 100?

Arthur – Yeah – I can add. I can add to 100.

Adult – Well I'm sure that you will help each other wont you?

Christopher – Yeah, I'll help you. I'll help you with the adding.

Arthur – Yeah, you do the adding and I'll write the score yeah?

Christopher – Do you want me to go first again?

Arthur – I'll go first. Coz I won the last game. So the winner goes first, yeah?

Christopher – Go on then. From behind the line. Don't put your feet on the line. Stand behind it, right back behind it.

Arthur – (Rolls ball and hits first 3 skittles down) – 1 and 2 and 3. double 1 is 2, double 2 is 4.

Christopher – You don't double them ones. You double the back ones. Do you want to just double all of them? Yeah, let's say that they are all double.

Arthur – Yes. You double them and I'll write it. Yes?

Christopher – You got 12. Write 12. 1 and 2. (Christopher puts skittles up and stands behind the line to throw the ball.) 20 I got 20. Write down 20.

Arthur – 20?

Christopher – Yeah...1, and 2, and 3, and 4. doubled.

Arthur – Oh yeah, that's 20.

Adult – is it 20 Arthur?

Arthur – Yes. I think so. Yeah it is 20 isn't it?

Adult- Christopher explain to Arthur how you found out that it is 20.

Christopher – I got 1 add 2 so that's 3 yeah?

Arthur – Yeah I know 1 add 2 (laughs). 1 add 2 is 3. and that leaves 4. 4 and 4 is...

Christopher – I didn't do it that way. I did 1 add 2, so that makes 3, then 3 add 4, so that equals 7. then double it all. No wait. Hang on. Um. No wait. I...I added the total and doubled that. 1 add 2 add 3 add 4 equals 10. and double 10 is 20. so it is 20.

Adult – Does that make sense Arthur?

Arthur – Yes.

Christopher – 1 add 2 equals 3. then 3 add 4 equals 7...yeah. Then the 3 and the 7 make the 10. that's the double.

Adult – That is tricky Maths. It is hard to explain what you do too, so well done. Explaining how to work something out is really hard. Did it make sense Arthur?

(Adult writes on whiteboard $1+2=$, $3+4=$) So Arthur – 1 add 2 equals?

Arthur – 3.

Adult – and 3 add 4 is the same as?

Arthur – (uses fingers to count 3 and 4) 7.

Adult – Yes. So then we need to add them together to find all of the skittles together, so 3 add 7 is (records $3+7=$ on whiteboard).

Arthur – 10.

Adult – then double the 10. what is 10 add on 10? (records $10+10=$).

Arthur – 10 and 10 is 20.

Adult – Exactly! You are both so good at your adding.

Arthur – Yeah. I'm good at counting. And adding. I'm good at adding.

Christopher – Can you do times too? I do times at home. And division. And subtracting.

Adult – Well you are both fabulous at maths. But you need to get on with your game. We are going to be tidying up in a minute.

Christopher – I'll write my 20. you take your go.

(The game carries on, for another turn, with Christopher doing most of the scoring.)

Appendix XXIV– Example of non task related talk

Example of non-task related conversation in class between adult and Arthur – (Before focussed activity)

Arthur has come in from outside to complete a curriculum activity with the teacher, the other children for the group are assembling.

Arthur – We played Star Wars. Have you seen Star Wars?

Adult – I have, but a very long time ago.

Arthur – I've got the game of Star Wars, I have.

Adult – What sort of game.

Arthur – A Star Wars game.

Adult – No, I mean is it a board game? A computer game?

Arthur – Yeah, on the ipad.

Adult – Oh, is it the Lego Star Wars one? I think I've seen that?

Arthur – No, I think. Does that have Pigs? It is Angry Birds. Have you seen an Angry Birds one with pigs?

Adult – Angry Birds? I think I've heard of that, but I didn't know that there was a Star Wars one. What do you have to do?

Arthur -You have light sabers and there's pigs.

Adult – That sounds fun. I'll have to look for it. Is it fun?

Arthur – Yeah. I'll bring it in. Do you want me to bring my one in for you?

Adult – Oh, that's very kind, but I wouldn't want you to break it. I don't think you're allowed to bring ipads to school either are you?

Arthur – No. I play it at home I do. I'm going to play it today, when I get home.

Adult – Sounds fun. Let's crack on then.

(Starts structured activity)

Appendix XXV - Example of interaction, relating back to previous activity

Example interaction during a Numeracy activity-children recording the capacity of different vessels.

Arthur - "How do you spell container?"

Adult - "sound it out in....con-tain-er. What sounds can you hear?"

Arthur - "'c', 'o', 'n' (writes the correct letters) 'con' 't'. What's the next bit?"

Adult - "We looked at 'ay' last week, think about the different ways to represent the 'ay' sound. What might it be?"

Arthur - "'a', 'y'...or... 'a', 'i'?"

Adult - "Well done, it could be a split vowel too, but for con-tain-er, it is 'a', 'i'"

Arthur - "(writes 'ai' followed by 'n'.) What's next?"

Adult - "segment the whole word again...What sounds can you hear?"

Arthur - "(sounding out) c-o-n-t-ai-n-er"

Adult - "so what's the last sound?"

Arthur - "er"

Adult - "You know how to write an 'er' sound"

Arthur - "e', 'r'."

Adult - "Exactly. Well done. See, easy-peasy. C-o-n-t-ai-n-er" (points to word and segments, pointing at each).

Appendix XXVI – Transcripts of discussions with focus children

Discussion with Lilly about what she likes doing at school.

Adult-What are your favourite things to do at school?

Lilly- I like writing, and handwriting. I do like Maths as well though, but writing is my best thing. I like PE, and playing outside. I like all of it really.

Adult – Do you? That's great. Is there anything that you don't like? About school? Is there anything that you don't like about school?

Lilly – Um, no. I love all of it.

Adult – All of it? Wow. What do you think you are good at, at school?

Lilly – Reading, I'm on the hard books.

Adult – Reading. Anything else?

Lilly – Erm, writing I'm good at writing. I'm not good at Maths, but I am in top group for Maths, but I'm not that good at it. I am good at writing.

Adult – 'Top group'? What does top group mean?

Lilly – It's the hardest group. We do the hardest maths. Not as hard as Christopher, he does really really hard maths. But I'm in that group, with *child's name* she does hard maths too. I think that she is a bit better than me and Christopher is really better than me. I can do some of it. I'm in top group for writing. That means that I do very neat writing, it is joined.

Discussion with Christopher about what he likes doing at school.

Adult-What are your favourite things to do at school?

Christopher – football and maths

Adult – What do you like about them?

Christopher – I'm good at scoring goals. We played with the Year 2s and scored loads of goals against them, but they were bigger, we beat them.

Adult – What else do you like?

Christopher – Building.

Adult – Building? Construction with the Lego, or making things with junk and glue.

Christopher – Both.

Adult – Is there anything that you don't like about school?

Christopher – No.

Adult – What do you think you are good at at school?

Christopher – Maths. My dad says I'm a calculator.

Adult – A calculator, well you must be very good at maths to be a calculator.

Discussion with Penny about what she likes doing at school.

Adult – What are your favourite things to do at school?

Penny – (shrugs)

Adult – Do you like drawing? Playing? Writing?

Penny – Yes.

Adult –Which one? Which do you like best?

Penny – Drawing.

Adult – Drawing. What sort of things do you like to draw?

Penny – (shrugs)

Adult – Do you like drawing people?

Penny – No.

Adult – Do you like drawing animals?

Penny – Dancing people. I do dancing people.

Adult – Ahh, do you? You like dancing don't you.

Penny – (nods)

Adult – What do your dancers look like? Do they have ballet tutus on? Like Angelina ballerina?

Penny – (shakes head)

Adult – No? oh. What do they look like then?

Penny – Just dancers.

Adult – well you'll have to draw one for me, so that I can see it? Can you draw me one of your dancing people?

Discussion with Arthur about what he likes doing at school.

Adult – What are your favourite things to do at school?

Arthur – Outside.

Adult – Playing outside? What sort of things do you like to play?

Arthur – Dressing-up. I'm Iron man and Spiderman.

Adult- Are you? Do you climb up buildings?

Arthur – No (laughs). I can shoot webs.

Adult – What else do you like to do? What sort of things are you good at in school?

Arthur – Maths. I am good at maths.

Discussion with Bobby about what he likes doing at school.

Adult – What are your favourite things to do at school?

Bobby – Football

Adult – Football? Do you play football outside school too? At home?

Bobby – Yep, and I play with dad.

Adult- What other things do you like at school?

Bobby – err.

Adult – Do you like writing? Drawing? Maths?

Bobby – No way. Writing is my worst thing.

Adult – Do you not like it?

Bobby – No. all we do is writing writing writing, it is boring.

Discussion with David about what he likes doing at school.

Adult – What are your favourite things to do at school?

David – In the role-play area.

Adult- You like the role-play area? What do you like about it?

David – Playing with Arthur

Adult- What sort of things do you play?

David – Superman.

Adult – Do you? Do you fly like Superman?

David – Yeah. I catch baddies. The joker one and Lex.

Adult – Who are they? Who's Lex and the Joker one?

David – Bobby. We have to get Bobby.

Adult – What do you do when you get him?

David – Shoot him with lasers. I have lasers in here (shows his wrists).

Adult – Have you? How did you get them? Do I have them too?

David – No. I get them coz I am Superman.

Adult – What else do you do? What do you think you are good at at school?

David – Don't know.

Adult – Are you good at Maths?

David – No.

Adult – Writing? Drawing? Science?

David – No.

Adult – None of them?

David – No, just role-play.

Appendix XXVII – Transcripts of children’s discussions about their ‘levels’

Discussion about assessment levels between ‘high ability children’.

Child A – What are you? Are you a 2c?

Christopher – Yes, the writing one.

Child A – We’re the same!!

Christopher - Maths is a 2b.

Child A – What is more? Is 2b the best?

Christopher – Best for Maths.

Child A - No coz if I’m a 2c, then you’re a better writer.

Christopher – I’m 2c for writing.

Child A – I’m the same. I’m the same as you in writing.

Discussion about assessment levels between adult and David

Adult – so these are the things that you need to do to move from a 1c to a 1b.

David – Is that when you get the cup thing?

Adult – What cup thing? You don’t get a cup, you get better at writing. So these are the things you need to do to get really good at writing, do you want me to read them to you?

David – Yeah. Do you know...I never got the cup. I haven’t ever got the cup thing.

Adult – What cup?

David – The badge. When you like get the cup badge.

Adult – Oh, the merit badge, do you mean the merit badge?

David – Yeah, I never did have a badge.

Adult – Well, if you get really good at your writing then you might get it. So these are the things that you need to do to be a 1b. Perhaps you’ll get the badge when you’re a 1b.

Discussion about assessment levels between adult and Bobby.

Adult – so what level are you?

Bobby – 1.

Adult – You’ve got to remember the other bit. You’re a 1c. So if anyone asks you then you have to remember the c.

Bobby – 1c

Adult – what do you have to do to improve your writing? What is going to make your writing even better?

Bobby – Um, write neat letters.

Adult – No it is this one isn’t it (points to tick sheet). It is ‘*I can write some letters for sounds that I hear*’. So you have to remember, if anyone asks you, then you have to remember. ‘*I can write some letters for sounds that I hear*’. That’s your target. Or you could just point to this one in your book. So if anyone asks you what your target is, then point to it, I’ll put a cross by it to help you.

Appendix XXVIII – Support staff comments on children receiving additional support

- All that time and effort would have been better spent on the most able ones.
- If results are so important then why don't they put the effort into the middle ones, they would really benefit from an extra push and then more results would go up wouldn't they.